

# ARDURRA

## MUNICIPAL ASSOCIATION OF SOUTH CAROLINA

Engineering Services for Various Projects and On Call Services

> Request for Qualifications - On-Call Professional Engineering Services

October 17, 2022 JONATHAN HEALD, PE CLIENT SERVICES MANAGER





Ardurra Group, Inc. 4400 Saint Andrews Road, Suite B Columbia, South Carolina 29210

Jake Broom, Chief Operating Officer Municipal Association of South Carolina PO Box 12109 Columbia, S.C. 29211

#### **RE: On-Call Professional Civil Engineering Services**

Selection Committee:

The Municipal Association of South Carolina (MASC) is well-known for innovative and strategic leadership in providing essential and cost effective services to the State's 271 incorporated municipalities. Ardurra Group, Inc. (Ardurra) shares this goal and provide clients with unmatched service and innovative projects. We are structured to provide responsive support and personal care to the communities we serve. We utilize the latest techniques combined with traditional engineering and construction strategies to find the most appropriate solutions for the challenges facing our client.

We at Ardurra appreciate this opportunity to provide high-quality, timely, and efficient professional engineering services to MASC and its member municipalities. We will work diligently to earn your trust and confidence daily, and we believe that our successful performance on numerous projects for over 44 years demonstrates our capabilities and our dedication to exceeding your expectations. We are fully capable and experienced in assisting with those projects. Our client list of entities comparable in size with similar type projects includes: Richland County, City of Columbia, North Charleston Sewer District, ReWa, City of Goose Creek, Greer Commission of Public Works, Liberty-Chesnee-Fingerville Water District, Pioneer Rural Water District, City of Anderson, City of Clemson, Charleston Water System, Abbeville County, and Easley Combined Utilities. Some of these we have worked with for over two decades.

We are ready and prepared to immediately undertake the professional services required for any one of the multiple projects MASC chooses to implement in this program. Every client is extremely important to us as we strive to ensure every project is completed successfully, on time, and within budget. Our goal is to get things right the first time, as our change order rate (over the last 25 years with \$1000's of millions in projects) confirms. Ardurra is willing to perform these services and enter into a contract with any municipality in the State.

With Kind Regards,

ARDURRA GROUP, INC.

Jonathan Heald, PE (Point of Contact) Client Services Manager (SC) 4400 Saint Andrews Road, Suite B Columbia, South Carolina 29210 843-318-1807 (Cell) jheald@ardurra.com

| PROFESSIONAL SERVICES                              |   |
|--|---|
| Water Lines - Extension and Replacements           | Х |
| Water Booster Pump Stations                        | Х |
| Sewer Lines - Rehab, Extension and<br>Replacements | Х |
| Wastewater Lift Stations & Force Mains             | Х |
| Water Treatment                                    | Х |
| Wastewater Treatment                               | Х |
| Funding  | Х |



# 1. TECHNICAL APPROACH/ UNDERSTANDING

### INTRODUCTION

With 1200+ employees in over 50 offices across the country, Ardurra is a Top 500 ENR-ranked, rapidly growing company of experts, engineers, and design professionals committed to delivering quality services and practical solutions in the fields of utilities engineering, public works, structural, land development, landscape architecture, ecological services, disaster management, surveying, and transportation.

#### ARDURRA GROUP, INC.

Ardurra is a full-service consulting, engineering, and technical services firm made up of dedicated professionals that provide engineering and technology solutions to municipalities throughout the Southeast. Today our clients face common challenges with the need for exceptional customer service coupled with greater accountability and shrinking budgets. We have worked with clients across the Southeast US, and especially in South Carolina, in delivering projects. In today's environment, these projects need to be delivered within tight budgets and therefore require innovation and creativity to achieve cost savings.

Ardurra is a locally-based ENR Top 500 engineering firm that has been providing multi-disciplinary consulting services to municipalities and agencies in South Carolina for over 44 years, providing practical and economical engineering solutions to local governments and public utility authorities serving utility systems. Our diverse experience and expertise span the entire project delivery cycle. From planning through design, permitting, construction and operation, water distribution and wastewater collection systems, roads, sidewalks and intersections, or new site facilities and parks, we do it all. The majority of our municipal work experience has been assigned through our 30+ continuing services contracts. We know how to operate under continuous services contracts and most of our projects fall within the CCNA cost limitations of continuing services contracts.

We understand that Municipal Association of South Carolina (MASC) and its members expect the completion of these projects to be on-time and onbudget, and that the data to be delivered is accurate and meets rigorous quality control standards. In this response to your request for ongoing professional engineering services, we will present our in-depth project understanding, discuss key elements to our approach, and describe how we are able to keep our projects under budget while not sacrificing the quality of our work.



### TECHNICAL APPROACH/ UNDERSTANDING

Our professionals have planned, designed, permitted, and overseen the construction of many of the most critical water, wastewater treatment and conveyance projects in the Southeastern US. We have led the design and improvements to miles of water distribution networks throughout the state ranging in size from 6" to 48".

#### **PROJECT MANAGEMENT**

Our proposed management approach has evolved over the course of many years of successful projects. Successful projects do not happen by accident but are the result of careful, studied management. These tools are an integral part of the way we manage our projects, and our professionals have the training and experience to successfully implement these tools on behalf of our clients. The key controls and tools we will use to control the main challenges of this project are presented below.

#### QA/QC

Ardurra has a corporate QA/QC plan that is implemented on all projects. Unlike our competitors, this plan not only involves reviews at various project design milestones, but also review of construction documentation. After all, a thorough design's real value lies in its proper implementation, and documenting that proper implementation is very valuable when it comes to addressing postconstruction questions.

We commit that all design deliverables and other important project correspondence, from planning through design and construction, will not be transmitted to the municipality prior to review by our designated QA/QC officer Joe Greenburg, PE.

Ardurra subscribes to a strong project management approach with all lines of communication running through Jonathan Heald, P.E., the Client Services Manager, thus making one person answerable to the municipality at all times. Further, Ardurra's QA/ QC policy requires each subconsultant conform to our quality control requirements. We will review our subconsultants' work and deliverables as if it were our own.



All review submittals and permit application packages will be reviewed by the Project Manager and the QA/QC Officer prior to submittal to the municipality or to other agencies. Once comments are received, the design team, including subconsultants, will review how to address each comment and will provide a written response describing how the comment was addressed will be provided with the next review submittal.

#### **Project Execution**

With MASC soliciting qualifications for On-Call professional engineering services for a variety of potential projects, yet to be defined, Ardurra's approach to each, when asked to respond, will generally follow a plan that starts with Project Scoping before beginning the Design Phase activities. After design is completed, Ardurra will assist with the Bidding and Award of any contracts and provide Construction Administration, Resident Engineering and Inspection as needed.

Since each project awarded under this contract will be unique, Project Scoping is the crucial first step. This will include at least one meeting with the municipality to establish the project parameters and draft a Scope of Work (SOW) with a list of deliverables for review. Depending on the complexity of the work, additional phone calls, emails and possibly a followup meeting will be required to finalize the SOW, along with a design schedule and budget. While Ardurra has identified the key members for all oncall services and the core for each design services team, we will identify the design team members for each awarded project, adding new members to support a particular SOW and replace members that are not available when each project is released for the client's review and approval.

After receiving a Notice to Proceed, Ardurra will begin the design phase. This is typically divided into Conceptual Design (CD), Basic Design (BD) and Detailed Design (DD). At each of these stages there are check points that will allow the municipality to review the progress of the drawings and current construction cost estimates in order to make timely changes without impacting the design process.

#### Design

Conceptual Design starts with a kickoff meeting between the municipality staff and the Ardurra design team assigned to the project. During this meeting the design SOW and schedule will be reviewed, and points of communication and contacts will be established. The majority of the meeting will revolve around gaining a deeper understanding of the problem, discussing potential alternative solutions that can be reviewed, and outlining the client's desired outcomes for the project. The kickoff meeting will likely include a site visit by the Ardurra team. During the CD phase Ardurra will work with the client to gather any relevant data available, including existing studies, previous designs, the municipality's standard drawings, details and specifications, and GIS data that will assist with developing the design. As alternative solutions are developed, Ardurra will coordinate with the client on defining and refining the Design Parameters and Acceptance Criteria for the project. To what level each alternative meets the established criteria will be part of the ranking of each alternative along with any potential constraint such as special permitting, long lead times for equipment or materials and the anticipated construction cost for each. The Ardurra team will present each option along with the pros and cons, and work with the client to select the "best" option for further implementation. The process for selecting the option will be documented in a CD report that will guide the next phase of design.



Basic Design will advance the selected alternative into a set of Issued for Design (IFD) design drawings with a +30%/-10% construction cost estimate. The BD phase will include a series of standing meetings to review the progress of the design and keep the client informed and involved in the design process. Depending on the complexity of the project, or the urgency for completing the work, meetings could be as frequent as weekly or at least monthly. Any topographic and/or planimetric surveying, geotechnical exploration and testing, per identification of natural resources, hazardous materials, and/or other constraints on the project will be performed during BD. The last meeting of BD will include a table top review of the IFD Drawings and construction cost estimate.

Detailed Design advances the IFD drawings to the Issued for Review (IFR) level and then to the Issued for Approval (IFA) stage and finally the Issued for Construction (IFC) status. The IFR package includes further development of the design drawings by incorporating comments on the IFD drawings, identification of new easements and/or Right-of-Way, a set of technical specifications and a bidding and construction schedule. Ardurra will strive to use the municipality's standards whenever possible when developing the IFR package and supplement any gaps with our standard details and specifications. The IFR drawings and specifications will be issued to the client for review and comments along with an updated construction cost estimate. If permitting issues have been identified, the IFR drawings are suitable for an initial meeting with any review agency to help expedite a future permit application.

After receiving comments on the IFR submittal, the IFA package will be completed by incorporating the client's comments on each element of the design package and updating the construction cost estimate. At this stage the package is ready to be submitted to any Authority Having Jurisdiction (AHJ) over the project for permitting along with the necessary permit applications and documentation. Typically, the IFA package is ready for construction pending any comments on the project from the AHJ's. The IFC package is a complete set of construction documents, signed and sealed by the Engineer of Record (EOR). This set incorporates all previous comments to the drawings and specifications, updates the schedule and cost estimate and adds the front-end or bidding documents to the project manual.

After the project is advertised, Ardurra will assist the municipality during the bidding process by answering questions by prospective contractors, attending/facilitating a pre-bid meeting, drafting addendum on behalf of the county, attending the bid opening, reviewing and certifying the bids and making a recommendation to award the contract to a particular contractor to the client. Once awarded, Ardurra will continue to serve the client during construction with Construction Administration, Resident Engineering, and Inspection services as needed. This generally includes attending/conducting a pre-construction meeting(s), cataloging, reviewing and responding to Request for Information (RFI's), Submittals and Change Orders from the Contractor, and attending periodic construction meetings under Construction Administration. Resident Engineering and Inspection normally includes daily to weekly observation, documentation and reporting of construction activities to the municipality, independent of the municipality's organization.



#### Funding

Early in the project Ardurra will identify funding alternatives and review the potential list with the client. These could include, but are not limited to, SRF, SC RIA, CDBG, USDA, ARD, and ARPA. After the client has selected the funding source(s) for a particular project, Ardurra will work to secure finances for the project by preparing a Preliminary Engineering Report, completing the application, meeting with the funding agency and submitting the application package.



# 2. MANAGEMENT PLAN/ EXPERIENCE OF PROPOSED PERSONNEL

### TEAM ORGANIZATION AND MANAGEMENT PLAN

Our Team believes that proper and timely communication is a vital part of being responsive to our clients. In executing this contract, Ardurra and our team will implement procedures to enable project staff to make critical decisions in a way that respects a Municipality's limited time and yet provides sufficient information to make key decisions on the project. At the start of all projects, we develop a work plan with project instructions. Because Ardurra recognizes that projects with quick professional service response times require routine communications, a customized communications plan will be developed for this project and included as a part of the work plan.



Municipal Association of South Carolina - Engineering Services

## JOE DOWNEY, P.E.



#### **EDUCATION:**

M.S., Environmental Engineering, Auburn University

#### **OFFICE LOCATION**

Atlanta, GA

#### **REGISTRATION:**

P.E. GA #036404

Mr. Downey has more than 37 years of direct design and construction experience on projects ranging from water and wastewater utility systems, public works projects, land development and industrial process design. Recognized as an industry leader, Mr. Downey's professional expertise is designing, permitting, constructing and operating water and wastewater utility systems, including pumping stations, water treatment plants, water mains, storage tanks, and gravity collection sewers.

#### **PRINCIPAL IN CHARGE**

**MAWSS Corrosion Control Study, Mobile, AL** - MAWSS was exceeding lead and copper regulations in the distribution system, so Ardurra was hired to review operating conditions.

**Decatur Utilities Beltline Road Sanitary Sewer Extension, AL** - Manage construction of a new lift station, force main and gravity sewer mains to extend sewer service to commercial areas along highway.

Water and Wastewater Comprehensive Plan, Montgomery Water Works and Sanitary Sewer System, AL - Project included future demand projections, evaluation of existing facilities, hydraulic modeling of flows, development of pressure management strategies.

## JONATHAN HEALD, P.E.



#### **EDUCATION:**

B.S., Civil Engineering, University of South Alabama

#### **OFFICE LOCATION**

Columbia, SC

#### **REGISTRATION:**

P.E. SC #23970

My. Heald has 25 years of experience in the field of civil engineering. His years of service, with municipal government, have given him a broad prospective on the design, instation, and maintenance of infrastructure including roads, bridges, sidewalks and above and underground utilities. Jonathan's technical specialty is water resources management with extensive experience in hydrological and hydraulic modeling, to support the analysis, design, and maintenance of water supply.

#### **CLIENT SERVICES MANAGER**

**City of Georgetown, Georgetown SC** – As Public Services Director, oversaw the Public Works, Engineering and Water Utilities Departments for the City, including the management of Streets and Sidewalks, Parks and Grounds, Solid Waste, Fleet Services, Wastewater Collection, Stormwater Collection.

**Discipline Lead Civil - Fluor Greenville – Greenville, SC –** Managed Civil Engineering Group for the Fluor Greenville campus. Developed work processes and standards to optimize execution of civil deliverables.

Senior Project Engineer, Asheville, NC/Greenville, SC - Directed engineering interns on the development of hydrological and hydraulic models for flood studies, and (LOMC).

Municipal Association of South Carolina - Engineering Services 7 ARDURRA

## JOE GREENBURG, P.E.



#### **EDUCATION:**

M.S., Engineering, Clemson University

#### **OFFICE LOCATION**

Anderson, SC

#### **REGISTRATION:**

P.E. SC #13241

Mr. Greenburg serves as Water Group Leader for The Anderson Office and has 35 years of municipal and industrial water and wastewater treatment experience. His responsibilities include water and wastewater treatment facilities conceptual and detailed design, residuals and biosolids dewatering facility design, computer modeling and analysis of water distribution systems, computer modeling of stormwater runoff systems, and computer modeling of streams.

#### QA/QC

**Saluda River Trunk Sewer Extension, Renewable Water Resources, Greenville SC** - Provided technical oversight and QA/QC for a \$1.75 million trunk sewer extension project.

**Renewable Water Resources, Highway 25 Business Park (Sewer Collection) Phase 2, Greenville, SC** - Provided technical oversight and QA/QC for a \$2.0 million trunk sewer project to serve future development along Highway 25 in southern Greenville County.

**Twelve-Fourteen Mile Creek Forcemain ARV Replacement, Town of Lexington, SC** - Provided QA/QC for the replacement of eighteen (18) ARVs on a 43,000 lf 24-inch ductile iron wastewater forcemain.

## CHUCK JOYE, P.E.



#### **EDUCATION:**

M.S., Civil Engineering, Clemson University

#### **OFFICE LOCATION**

Anderson, SC

#### **REGISTRATION:**

P.E. SC #6526

Mr. Joye is responsible for technical performance, client liaison, and project coordination activities. His duties include quality assurance, contract preparation and negotiations, grant procurement, project planning and feasibility, design, studies and investigations, forensic and post construction support, and construction management. Mr. Joye provides a wide variety of project funding services for water, wastewater and stormwater related projects.

#### **FUNDING**

Maple Creek Wastewater Treatment Plant Expansion, Greer, SC - Expansion of the existing WWTP from 4.5 MGD to 5.0 MGD, including a 0.5 MG Online Influent Equalization Basin, a 6.5 MG Offline Influent Storage basin, a new 18 MGD influent Pump Station, effluent equalization basin and UV Disinfection System, and a new parallel effluent diffuser.

**Rocky River Wastewater Treatment Plant Expansion, City of Anderson, SC** - \$27 million expansion of the existing WWTP from 6.1 MGD to 9.5 MGD, including a new two stage fixed film treatment train, a chemical precipitation phosphorus removal process, new deep bed tertiary filters and UV Disinfection System to treat flow from the 9.5 MGD facility.



## **KEITH OVERSTREET, P.E.**



#### **EDUCATION:**

B.S., Civil Engineering, University of South Florida

#### **OFFICE LOCATION**

Anderson, SC

#### **REGISTRATION:**

P.E. SC #12599

### YUE SUN, P.E.



#### **EDUCATION:**

M.S., Environmental Engineering, Virginia Tech

#### **OFFICE LOCATION**

Houston, TX

#### **REGISTRATION:**

P.E. TX #96723

Mr. Overstreet has 34 years of engineering and design experience and has been with Ardurra for 15 years. He is involved with projects from conceptual planning and detailed design through construction administration and project closeout. Keith is responsible for the design of water and wastewater treatment facilities, water distribution systems, sewer collection systems, and water and wastewater pumping stations.

#### **PROJECT MANAGER - WATER TREATMENT**

Expansion of Don L. Moore WTP to 24 MGD, Easley Combined Utilities SC - Responsible for final design of the process expansion to the Don L. Moore plant from 12 MGD to 24 MGD. The project consisted of new flocculation tanks, sedimentation tanks, dual media filters, upgrade of the SCADA system and expansion of the residuals handling system

Phase 1 Transmission Main Improvements, Greer CPW, SC - Project comprised of 24-inch transmission main located on Buncombe Road and SC 101, both busy multi-lane thoroughfares thru Greer, SC. Responsibilities included managing surveying and drawing production, producing specifications, bidding and construction administration.

Ms. Sun has 24 years of experience with water and wastewater facility design, treatment process selection, water treatment bench scale and pilot studies, plant operation optimization, water quality control and management, regulatory monitoring and compliance,. She has been involved in the delivery of key water and wastewater infrastructure improvements projects in Texas and her responsibilities include project planning, design management and coordination, and project delivery.

#### **PROCESS ENGINEER - WATER TREATMENT**

Pflugerville Water Treatment Plant Expansion, Pflugerville, TX - This project involves expanding city's surface water treatment plant from 17.7 MGD to 30 MGD, with an ultimate buildout to 75 MGD. The project includes expansion of the existing lake pump station and high service pump station, adding a new pretreatment process that consists of three-stage flocculation and high rate plate settles, expansion of a submersible membrane system.

Sugar Land Surface Water Treatment Plant Expansion, Sugar Land, TX -Expansion of the existing raw water system (raw water intake, raw water pump station), flocculation and high rate plate settler clarification, low pressure membrane filtration, granular activated carbon contactors, and disinfection chamber. 9

Municipal Association of South Carolina - Engineering Services

## DAN HUGGINS, P.E.



#### **EDUCATION:**

B.S., Civil Engineering, Clemson University

#### **OFFICE LOCATION**

Charleston, SC

#### **REGISTRATION:**

P.E. SC #22097

### BO ZHANG, P.E.



#### **EDUCATION:**

PhD Candidate, Environmental Engineering, University of Illinois

#### **OFFICE LOCATION**

Charleston, SC

#### **REGISTRATION:**

P.E. SC #40351

Mr. Huggins is a Senior Project Manager with more than 26 years of experience in the field of water and wastewater engineering. Mr. Huggins has a broad background in water resources engineering, including water and wastewater treatment, water storage and distribution, and wastewater collection. His responsibilities include project management for both water and wastewater projects in preliminary planning, preparation of construction plans and specifications, permitting and construction management.

#### **PROJECT MANAGER**

**Spartanburg Water, R.B. Simms and Lake Blalock WTP Upgrades, Spartanburg, SC** - Project Manager for design-build project to improve operational capabilities of 64 mgd R.B. Simms and 27 mgd Lake Blalock water treatment plants (WTPs). Project included raw water intake, chemical feed systems, flocculation basins, sedimentation basins, filter gallery piping, post mix, clearwell, high service pump station, residuals handling, residuals disposal and 4160 V electrical system.

**Oconee County, Calls Creek Water Reclamation Facility, Watkinsville, GA** - Water Reclamation Facility (WRF) upgrade. The project involves upgrading the existing unit processes and equipment at the existing facility to include a new 1.5 mgd biological nutrient removal (BNR).

Mrs. Zhang is a senior Water and Wastewater Process Engineer and Project Manager with 22 years of experience in condition assessment, capital improvement planning, evaluation, design, construction services, regulatory assistance and governmental grants/loans application support for water and wastewater treatment and conveyance systems.

#### **PROJECT ENGINEER**

Multiple Suez Water New Jersey Water & Wastewater Treatment Facilities Rehabilitation or Replacement, West Milford, NJ - Ms. Zhang managed project planning, staffing, progress and budget, and client support, for eight water and wastewater systems. A multi-disciplinary team of engineers and scientists were involved, including site/civil, process/mechanical, electrical, instrumentation and controls, geotechnical, hydrogeological, environmental, and structural, because water and wastewater facilities were located within close proximity to each other.

Hilton Head Island Long Cove WWTP Algae Growth Diagnosis and Correction, Hilton Head, SC - Project planning and client support for multiple

projects. Municipal Association of South Carolina - Engineering Services

ARDURRA 10

## MICHAEL BECKMAN, P.E.



#### **EDUCATION:**

M.S., Civil Engineering, North Carolina State University

#### **OFFICE LOCATION**

Charleston, SC

#### **REGISTRATION:**

P.E. SC #19051

Mr. Beckman has over 29 years of experience in the fields of water and wastewater systems engineering. His diverse experience has included project management on a variety of municipal environmental projects, including planning, design, permit applications, bidding, and construction management. His extensive project management experience includes a broad spectrum of projects, including alternative delivery methods, such as design-build.

#### **PROJECT MANAGER - DISTRIBUTION AND COLLECTION**

**Charleston Water System, Church Creek Interceptor Rehabilitation, Charleston, SC** - Project Manager for sanitary sewer rehabilitation of 30year old RCP and DIP. Project includes 16,000 LF of 24-inch to 42-inch C&TV, 8,000 LF of CIPP, 35 manhole rehabilitations, USACE and OCRM wetlands permitting, site access improvements, and 6,000 gallons per minute (gpm) bypass pumping.

**Charleston Water System, Johns Island Wastewater Interceptor Rehabilitation** – **Phase 1, Charleston, SC** - Project Manager for sanitary sewer rehabilitation of 30-year old RCP and DIP. Project includes 17,000 LF of 24-inch to 36inch C&TV, 10,000 LF of CIPP, 25 manhole rehabilitations, USACE and OCRM wetlands permitting, site access improvements, and 6,000 gpm.

### TAMMY HUGGINS, P.E.



#### **EDUCATION:**

B.S., Civil Engineering, Clemson University

#### **OFFICE LOCATION**

Charleston, SC

#### **REGISTRATION:**

P.E. SC #24731

Ms. Huggins is a professional engineer with more than 22 years of experience in the design, permitting, and management of various types of civil engineering projects, including stormwater design, site design, and special projects. Her experience also includes a broad range of water and wastewater engineering projects, from distribution and conveyance projects to site layout for plants ranging from 0.1 million gallons per day (mgd) to 3 mgd.

#### **DESIGN LEAD - DISTRIBUTION AND COLLECTION**

**Charleston Water System, Calhoun Street Water Main Replacement** - Elizabeth to Meeting, Charleston, SC - Project Engineer and Permit Coordinator for upsizing and relocation of 100-year old 6-inch water main along Calhoun Street on the peninsula of Charleston from Elizabeth to Meeting Street.

Charleston Water System, Yeamans Hall, Moore, Willard and Pine Streets Water Main Replacement, Hanahan, SC - Project Engineer and Permit Coordinator for upsizing and relocation of 8-inch, 4-inch and 2-inch water main along Yeamans Hall Road, Moore Street, Willard Drive and Pine Court in Hanahan, SC.

## DANIEL STEVENSON, P.E.



#### **EDUCATION:**

B.S., Electrical Engineering, University of Florida

#### **OFFICE LOCATION**

Fort Walton Beach, FL

#### **REGISTRATION:**

P.E. FL #35950

### **ROGER RHODES**



#### **EDUCATION:**

B.S., Civil Engineering, Clemson University

#### **OFFICE LOCATION**

Charleston, SC

**REGISTRATION:** 

N/A

Mr. Stevenson has over 15 years of experience in the design and implementation of electrical power distribution and control systems for water and wastewater projects. His diverse project experience includes tasks involving detailed electrical power design; Programmable Logic Controller (PLC) programming; Human Machine Interface (HMI) application development; wireless, wired and fiber optic network design and deployment; development and integration; as well as control system testing and troubleshooting.

#### SCADA

**Decatur Utilities Dry Creek WWTP Mixing, Heating and Dewatering, Decatur, AL** - Performing all HMI programming necessary to control and monitor all of the new equipment into the existing plant SCADA system. The programming was done in Iconics Genesis 64 software. Performing all electrical / I&C construction administration – coordination with the general and electrical contractor, submittal and shop drawing review, and construction inspection.

**Project Lead, South Walton Utilities Lift Station SCADA Upgrades, Miramar Beach, FL -** Tasks included Central SCADA system development, telemetry system design, and field startup assistance for several individual lift station sites.

Mr. Rhodes has over 40 years of experience in the fields of water and wastewater systems engineering and construction. His diverse experience has included project management or construction oversite on a variety of municipal environmental projects, including planning, design, permit applications, bidding, and construction management.

#### **CONSTRUCTION SUPPORT**

**City of Perry, Perry WTP #3, Perry, GA** - Division 1 was the construction of a 1.5 MGD treatment facility capable of removing iron/manganese from well water. The facility consisted of four sand/anthracite filters capable of processing six gallons per square foot, two sediment basins, liquid lime system, chlorine gas disinfection system, and backwash pump station.

**Spartanburg Water, R.B. Simms and Lake Blalock WTP Upgrades, Spartanburg, SC** - Improve operational capabilities of 64 mgd R.B. Simms and 27 mgd Lake Blalock water treatment plants. Project includes raw water intake, chemical feed systems, flocculation basins, sedimentation basins, filter underdrain replacement, filter gallery piping, and post mix.





# **3. EXPERIENCE OF THE FIRM**

## WATER DISTRIBUTION PROJECT EXPERIENCE



#### HANAHAN-MORE, WILLARD AND PINE STREET WATER MAIN REPLACEMENT

**CHARLESTON WATER SYSTEM, SC** 

Ardurra is providing engineering services to Charleston Water System in the form of design, permitting, and construction observation and administration for the upsizing WWII era asbestos concrete pipe in urban residential neighborhoods in the City of Hanahan, SC. The project consists of installing approximately 5,100 linear feet of 6 and 8-inch ductile iron pipe that will replace the current water main, tie-ins, approximately 100 service connections, and all associated appurtenances.



#### CITY OF GOOSE CREEK 24 INCH TRANSMISSION MAIN CITY OF GOOSE CREEK, SC

A 24-inch backbone transmission main was recommended to increase transmission capacity between the City's elevated storage tanks. This transmission improvement helps to prevent elevated storage tank lock-out, provides transmission main redundancy, and provides improved fire flows to the City's densely developed areas. In addition, the provision of water service to a new hospital campus was included. The project includes approximately 20,000 feet of 24-inch ductile iron transmission main in the Thurgood Road area to connect tanks with a backbone line. It also includes a 260-foot road bore of a main line CSX Railroad and US Highway 52.



#### RUTHERFORD ROAD AREA PRESSURE IMPROVEMENTS GREENVILLE WATER, SC

Greenville Water's Rutherford Road Service Area had experienced chronic low-pressure issues that worsened with increased development in the project area. Greenville Water retained Ardurra to design water infrastructure improvements to improve pressures in the project area, as well as management of the preliminary and final design phases of this project. These improvements included the installation of approximately 12,000-linear feet of 12-inch DIP water lines, 600-linear feet of 8-inch water lines, a pressure reducing valve, isolation valves, and related appurtenances.

### WATER PUMP STATION PROJECT EXPERIENCE



#### CHARLESTON WATER SYSTEM BEES FERRY ROAD BOOSTER PUMP STATION AND GROUND STORAGE TANK CHARLESTON WATER SYSTEM, SC

Ardurra provided engineering services to Charleston Water System to perform construction observation and administration for the development of a five-million-gallon water storage tank and booster pump station. The project included installing approximately 3,000 linear feet of 36-inch ductile iron water line, a 5,000 square foot pump station, two 300 horsepower ground storage pumps, two 150-horsepower booster pumps, a 5-MG ground storage tank, site work, and all associated appurtenances.



#### GREENVILLE WATER CRESTWOOD PUMP STATION GREENVILLE WATER, SC

The Crestwood Pump Station was originally constructed in the early 1960s and was upgraded in 2004. The Facilities Master Plan Report recommended the Crestwood Pump Station's firm capacity be increased to 5.5 million gallons per day (MGD). The Upgrade will involve the installation of a new factory-built 5.5 MGD, booster pump station on the existing site. The existing site is 0.35-acres; as a result, available space is limited. The new pump station will operate in parallel with the existing pump station to deliver the required capacity.



#### CLIFFS VALLEY AND PARIS MOUNTAIN PUMP STATION UPGRADES GREENVILLE WATER, SC

The project consisted of removing the old horizontal split case pumps and piping and replacing them with new horizontal split case pumps, piping, electrical, controls, and an emergency generator. The installation of new piping, pumps, and electrical was accomplished while keeping the existing pump station in service. Services provided for this project included a Preliminary Engineering Report, research, final design, opinion of probable costs, implementation schedule, bidding services, and construction administration.

### WASTEWATER COLLECTION PROJECT EXPERIENCE



#### JOHNS ISLAND WASTEWATER INTERCEPTOR REHAB PHASE 1 CHARLESTON WATER SYSTEM, SC

Services for Charleston Water System were in the form of design, permitting, and construction observation and administration for the rehabilitation of the 25-year old 30 and 36-inch RCP transmission main along Brownswood, Murraywood, and River Roads in Johns Island, SC.

- 17,000 LF of 24-inch to 26-inch CCTV
- 10,000 LF of CIPP
- 25 manhole rehabilitations
- USACE or OCRM wetland permitting



#### EVANS STREET WATER LINE AND SEWER LINE REPLACEMENT CITY OF NEWBERRY, SC

The City of Newberry wanted to upgrade the water and sewer infrastructure along Evans Street which runs next to Newberry College and adjacent to the downtown area. Design, bidding, and construction administration services for replacement and installation of approximately 1,150 linear feet of 6-inch DIP water distribution main and 1,350 linear feet of 8-inch PVC sewer including eight manholes with all related appurtenances. The project also includes tie-ins to the existing system, reconstruction of the existing services to the new water line and sewer line, and installation of all valves, hydrants, and other appurtenances.



#### COOPER STREET WATER AND SEWER MAIN REPLACEMENT CHARLESTON WATER SYSTEM, SC

Ardurra provided engineering services to Charleston Water System in the form of design, permitting, and construction observation and administration for the upsizing and relocation of a 100-year old 6-inch water main and 8-inch sewer main along Cooper Street as well as a new water main on America Street on the peninsula of Charleston, SC. The project consisted of installing approximately 1,500 LF linear feet of 8-inch ductile iron pipe that replaced the current water main, tie-ins, and approximately 25 service connections.

### WASTEWATER LIFT STATIONS PROJECT EXPERIENCE



#### KIRKWOOD WASTEWATER LIFT STATION UPGRADE CITY OF CAMDEN, SC

The existing Kirkwood Wastewater Pump Station was approximately 40-years old and was experiencing age-related deficiencies. The challenge was to fit the new pump station on the existing site while keeping the existing pump station in service.

- New 170 GPM submersible pump station adjacent to existing
- Decommissioning of existing lift station
- Connection to existing sewer system
- SCDHEC Construction Permit
- Tie-in to existing force main



#### BMW LIFT STATION UPGRADES

#### **GREER COMMISSION OF PUBLIC WORKS, SC**

The existing BMW Pump Station was constructed in 1994 and serves the entire BMW plant in Greer, South Carolina. The age and condition of the pump station were evaluated in 2018, and a total replacement was recommended. The BMW Pump Station Replacement project consists of replacing the existing BMW Pump Station with a new 1,900 gpm triplex sewer pump station, installation of approximately 9,600 linear feet of 14-inch sewer force main, replacement of six existing Air Release Valves on the existing 14-inch force main, erosion control, restoration and grassing, testing, and all other related appurtenances.



#### HASTINGS LIFT STATIONS IMPROVEMENTS ST. JOHNS COUNTY UTILITY DEPARTMENT, FL

Ardurra provided professional engineering activities associated with the preparation of construction documents suitable for bidding and construction for the rehabilitation of three lift stations in the St. Johns County service area. Improvements to the Main Street Lift Station included elevating the site above the 100-year floodplain, utilizing the existing wetwell and installing a new liner, a new concrete slab with hatch cover, stainless steel piping, force main piping valves, guide rails, pump bases, permanent diesel engine backup pump, disconnect switch and emergency generator receptacle, control panel, fence, lighting, and all other appurtenances.

## WATER TREATMENT PROJECT EXPERIENCE



## R.B SIMMS WATER TREATMENT PLANT DESIGN-BUILD IMPROVEMENTS

SPARTANBURG WATER SYSTEM, SC

\$30-M in improvements at the 64-MGD R.B. Simms Water Treatment Plant for the Spartanburg Water System. The goals of the improvement program were to improve operational reliability and flexibility, increase capacity and ensure regulatory compliance. The project included: replacing the raw water intake bar screen; structurally rehabilitating sedimentation and flocculation basis; installing a new decant pump station to greatly reduce the amount of water conveyed to the thickeners during washdown cycles.



#### GREER WATER TREATMENT PLANT EXPANSION GREER COMMISSION OF PUBLIC WORKS, SC

The project included the replacement of the existing raw water pumps, new raw water pump station electrical building, installation of a two stage rapid mix process along with enhanced coagulation, upgrade of the existing vertical turbine type flocculators, installation of plate settlers in the existing sedimentation basins, replacement of the existing Trac-Vac sludge collection equipment, dual media gravity filter improvements, new filter instrumentation including level sensors, particle counters and turbidimeters, complete replacement of all chemical feed equipment, and a new PLC based distributed plant control system utilizing iFix Intellution HMI/SCADA software.



#### LANIER & SHOAL CREEK FILTER PLANT GWINNETT COUNTY DEPARTMENT OF WATER RESOURCES, GA

The 150 mgd Lanier Filter Plant and 70 mgd Shoal Creek Filter Plant withdraw raw water from Lake Lanier and provide treatment that includes ozonation, flocculation, filtration, and disinfection. Gwinnett County Department of Water Resources retained Ardurra to design a new vacuum-based chlorine gas system at both plants to reduce the risk of chlorine gas leaks. These improvements included 32 total vacuum regulators to provide gas vacuum at the chlorine 1-ton containers, 32 new emergency actuators for the gas container valves, new gas vacuum piping, new gas leak detectors, and new safety monitoring SCADA.

## WASTEWATER TREATMENT PROJECT EXPERIENCE



#### COWPENS WATER RECLAMATION FACILITY IMPROVEMENTS SPARTANBURG WATER SYSTEM, SC

This project is a progressive design-build to improve the 1.5mgd reclaimed water treatment facility, increase reliability and redundancy, accommodate peak hydraulic flows, and accommodate high strength industrial wastewater discharge. This project includes:

- New headworks
- New RAS/WAS pump station
- Existing aeration basin removed from service for cleaning and concrete repair
- Existing solids handling basin removed from service for cleaning and concrete repair
- New Clarifier
- New chlorine contact tank



#### LAKE SWAMP WASTEWATER TREATMENT FACILITY CITY OF LAKE CITY, SC

Ardurra provided planning, alternative analysis/evaluation, design, permitting, USDA-RD/SRF funding administration and bidding services and is currently providing construction administration and observation services for the improvements to the Lake Swamp WWTP. The project includes design improvements to the existing aeration basins, blower buildings, scum pump station, clarifier, RAS pump station, screening and grit structures, and dewatering building. The design also includes a new aeration basin, new septage receiving station, new blower building, and new generator.



#### COCHRAN ROAD WASTEWATER TREATMENT PLANT EXPANSION CITY OF CLEMSON, SC

Design, permitting, construction administration and resident services for the Cochran Road WWTF upgrade and expansion. Because of significant growth within the City of Clemson the existing WWTF needed to be expanded from 1.15 MGD to 2.0 MGD. This included upgrading the treatment process from conventional activated sludge to a biological nutrient removal process utilizing membrane bioreactors. Improvements included new influent pump, headworks with grit removal and two-stage screening, conversion of the existing aeration basins to anaerobic, anoxic, aerated and aerated zones.

| REFERENCES  |  |  |  |   |
|---|--|--|--|---|
| PROJECT REFERENCED  |  | CLIENT CONTACT   | PHONE  | EMAIL   |
| WATER<br>STRIBUTION<br>PROJECTS   | Hanahan-More, Willard and Pine Street<br>Water Main Replacement  | Russell Huggins,<br>Charleston Water System  | 843-727-6879   | hugginsrl@<br>charlestoncpw.com   |
|   | City of Goose Creek 24 Inch Transmission<br>Main   | Chuck Denson,<br>City of Goose Creek   | 843-824-2200   | cdenson@<br>cityofgoosecreek.com  |
| ä   | Rutherford Road Area Pressure<br>Improvements  | David Bereskin,<br>Greenville Water  | 864-241-6004   | bereskind@<br>greenvillewater.com   |
| PROJECT   | <b>FREFERENCED</b>   | CLIENT CONTACT   | PHONE  | EMAIL   |
| WATER PUMP<br>STATION<br>PROJECTS   | Bees Ferry Road Booster Pump Station and Ground Storage  | Russell Huggins,<br>Charleston Water System  | 843-727-6879   | hugginsrl@<br>charlestoncpw.com   |
|   | Crestwood Pump Station   | Jon Sherer,<br>Greenville Water  | 864-241-6107   | jsherer@greenvillewater.<br>com   |
|   | Cliff Valley and Paris Mountain Pump<br>Station  | David Bereskin,<br>Greenville Water  | 864-241-6004   | bereskind@<br>greenvillewater.com   |
| PROJEC  | I REFERENCED   | CLIENT CONTACT   | PHONE  | EMAIL   |
| WATER<br>COLLECTION<br>PROJECTS   | Johns Island Wastewater Interceptor<br>Rehab   | Chris Troutman,<br>Charleston Water System   | 843-727-6875   | troutmance@<br>charlestoncpw.com  |
|   | Evans Street Water and Sewer Line<br>Replacement   | Brad Rikard,<br>City of Newberry   | 803-321-1018   | brikard@cityofnewberry.<br>com  |
|   | Cooper Street Water and Sewer Main<br>Replacement  | Chris Troutman,<br>Charleston Water System   | 843-727-6875   | troutmance@<br>charlestoncpw.com  |
|   |  | /  |  |   |
| PROJECT   | REFERENCED   | CLIENT CONTACT   | PHONE  | EMAIL   |
|   | <b>REFERENCED</b><br>Kirkwood Wastewater Lift Station Upgrade  | CLIENT CONTACT<br>Ray Peterson,<br>City of Camden  | <b>PHONE</b><br>803-425-6045   | EMAIL<br>rpeterson@camdensc.<br>org   |
| PROJECTS<br>ON PROJECTS   | Kirkwood Wastewater Lift Station Upgrade<br>BMW Lift Station Upgrade   | CLIENT CONTACT<br>Ray Peterson,<br>City of Camden<br>Kevin Reardon,<br>Greer Commission of<br>Public Works   | PHONE         803-425-6045         864-968-3235  | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com   |
| WASTEWATER LIFT<br>STATION PROJECTS   | REFERENCED         Kirkwood Wastewater Lift Station Upgrade         BMW Lift Station Upgrade         Hastings Lift Station Upgrade   | CLIENT CONTACT<br>Ray Peterson,<br>City of Camden<br>Kevin Reardon,<br>Greer Commission of<br>Public Works<br>Teri Pinson,<br>St. Johns County Utility<br>Department   | PHONE         803-425-6045         864-968-3235         904-209-2604   | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us   |
| PROJECT<br>STATION PROJECTS<br>PROJECT  | REFERENCED         Kirkwood Wastewater Lift Station Upgrade         BMW Lift Station Upgrade         Hastings Lift Station Upgrade         TREFERENCED   | CLIENT CONTACT<br>Ray Peterson,<br>City of Camden<br>Kevin Reardon,<br>Greer Commission of<br>Public Works<br>Teri Pinson,<br>St. Johns County Utility<br>Department<br>CLIENT CONTACT   | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE   | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us<br>EMAIL  |
| PROJECT<br>STATION PROJECTS<br>PROJECT  | REFERENCED         Kirkwood Wastewater Lift Station Upgrade         BMW Lift Station Upgrade         Hastings Lift Station Upgrade <b>REFERENCED</b> R.B. Simms Water Treatment Plant Design   | CLIENT CONTACTRay Peterson,<br>City of CamdenKevin Reardon,<br>Greer Commission of<br>Public WorksTeri Pinson,<br>St. Johns County Utility<br>DepartmentCLIENT CONTACTGene Jackson,<br>Spartanburg Water   | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE         864-580-5669  | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us<br>EMAIL<br>gjackson@sws-sssd.org   |
| ER TREATMENT<br>PROJECTS<br>STATION PROJECTS<br>BACION PROJECTS   | REFERENCED         Kirkwood Wastewater Lift Station Upgrade         BMW Lift Station Upgrade         Hastings Lift Station Upgrade <b>REFERENCED</b> R.B. Simms Water Treatment Plant Design         Greer Water Treatment Plant Expansion   | CLIENT CONTACTRay Peterson,<br>City of CamdenKevin Reardon,<br>Greer Commission of<br>Public WorksTeri Pinson,<br>St. Johns County Utility<br>DepartmentCLIENT CONTACTGene Jackson,<br>Spartanburg WaterKevin Reardon,<br>Greer Commission of<br>Public Works  | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE         864-580-5669         864-968-3235   | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us<br>EMAIL<br>gjackson@sws-sssd.org<br>kevin.reardon@greercpw.<br>com   |
| WATER TREATMENT<br>WATER TREATMENT<br>STATION PROJECTS<br>BROJECTS  | REFERENCED         Kirkwood Wastewater Lift Station Upgrade         BMW Lift Station Upgrade         Hastings Lift Station Upgrade         REFERENCED         R.B. Simms Water Treatment Plant Design         Greer Water Treatment Plant Expansion         Lanier Shoal Creek Filter Plant  | CLIENT CONTACTRay Peterson,<br>City of CamdenKevin Reardon,<br>Greer Commission of<br>Public WorksTeri Pinson,<br>St. Johns County Utility<br>DepartmentCLIENT CONTACTGene Jackson,<br>Spartanburg WaterKevin Reardon,<br>Greer Commission of<br>Public WorksBill Defino,<br>Gwinnett County   | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE         864-580-5669         864-968-3235         678-376-6804  | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us<br>EMAIL<br>gjackson@sws-sssd.org<br>kevin.reardon@greercpw.<br>com<br>bill.defino@<br>gwinnettcounty.com   |
| PROJECTS<br>MATER TREATMENT<br>STATION PROJECTS<br>PROJECTS<br>PROJECTS   | REFERENCEDKirkwood Wastewater Lift Station UpgradeBMW Lift Station UpgradeHastings Lift Station UpgradeREFERENCEDR.B. Simms Water Treatment Plant DesignGreer Water Treatment Plant ExpansionLanier Shoal Creek Filter PlantREFERENCED   | CLIENT CONTACTRay Peterson,<br>City of CamdenKevin Reardon,<br>Greer Commission of<br>Public WorksTeri Pinson,<br>St. Johns County Utility<br>DepartmentCLIENT CONTACTGene Jackson,<br>Spartanburg WaterKevin Reardon,<br>Greer Commission of<br>Public WorksBill Defino,<br>Gwinnett CountyCLIENT CONTACT   | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE         864-580-5669         864-968-3235         864-968-3235         864-968-3235         864-968-3235         864-968-3235   | EMAIL rpeterson@camdensc. org kevin.reardon@greercpw. com tpinson@sjcfl.us EMAIL gjackson@sws-sssd.org kevin.reardon@greercpw. com bill.defino@ gwinnettcounty.com EMAIL  |
| ATER<br>ATER<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS<br>IS  | REFERENCED         Kirkwood Wastewater Lift Station Upgrade         BMW Lift Station Upgrade         Hastings Lift Station Upgrade         REFERENCED         R.B. Simms Water Treatment Plant Design         Greer Water Treatment Plant Expansion         Lanier Shoal Creek Filter Plant         REFERENCED         Cowpens Water Reclamation Facility         Improvements | CLIENT CONTACTRay Peterson,<br>City of CamdenKevin Reardon,<br>Greer Commission of<br>Public WorksTeri Pinson,<br>St. Johns County Utility<br>DepartmentCLIENT CONTACTGene Jackson,<br>Spartanburg WaterKevin Reardon,<br>Greer Commission of<br>Public WorksBill Defino,<br>Gwinnett CountyCLIENT CONTACTGene Jackson,<br>Spartanburg WaterGene Jackson,<br>Spartanburg Water   | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE         864-580-5669         864-968-3235         864-968-3235         864-968-3235         864-968-3235         864-968-3235         864-968-3235         864-968-3235         864-968-3235         864-968-3235 | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us<br>EMAIL<br>gjackson@sws-sssd.org<br>kevin.reardon@greercpw.<br>com<br>bill.defino@<br>gwinnettcounty.com<br>EMAIL<br>gjackson@sws-sssd.org                             |
| STEWATER<br>LEATMENT<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJECTS<br>ROJE | REFERENCEDKirkwood Wastewater Lift Station UpgradeBMW Lift Station UpgradeHastings Lift Station UpgradeREFERENCEDR.B. Simms Water Treatment Plant DesignGreer Water Treatment Plant ExpansionLanier Shoal Creek Filter PlantREFERENCEDCowpens Water Reclamation Facility<br>ImprovementsLake Swamp Wastewater Treatment<br>Facility  | CLIENT CONTACTRay Peterson,<br>City of CamdenKevin Reardon,<br>Greer Commission of<br>Public WorksTeri Pinson,<br>St. Johns County Utility<br>DepartmentCLIENT CONTACTGene Jackson,<br>Spartanburg WaterKevin Reardon,<br>Greer Commission of<br>Public WorksBill Defino,<br>Gwinnett CountyCLIENT CONTACTGene Jackson,<br>Spartanburg WaterKevin Reardon,<br>Greer Commission of<br>Public WorksBill Defino,<br>Gwinnett CountyCLIENT CONTACTGene Jackson,<br>Spartanburg WaterWilliam Hall,<br>City of Lake City | PHONE         803-425-6045         864-968-3235         904-209-2604         PHONE         864-580-5669         864-968-3235         864-968-3235         864-580-5669         864-376-6804         PHONE         864-580-5669         843-374-5421  | EMAIL<br>rpeterson@camdensc.<br>org<br>kevin.reardon@greercpw.<br>com<br>tpinson@sjcfl.us<br>EMAIL<br>gjackson@sws-sssd.org<br>kevin.reardon@greercpw.<br>com<br>bill.defino@<br>gwinnettcounty.com<br>EMAIL<br>gjackson@sws-sssd.org<br>whall@cityoflakecity.org |



# 4. FAMILIARITY WITH FUNDING REQUIREMENTS

### FAMILIARITY WITH FUNDING REQUIREMENTS

We have assisted South Carolina clients with applying for, obtaining, and managing various funding sources including, but not limited to, SRF, SC RIA, CDBG, USDA, ARC, ARPA, etc. The following projects are just a few instances in which we have secured funding for South Carolina water and wastewater projects. For each of the following projects, Ardurra evaluated alternatives for the projects, developed a Preliminary Engineering Report, and assisted the client in the preparation and submission of funding applications.

| CLIENT & PROJECT                               | FUNDING  |  |
|--|--|--|
| Greer Commission of Public Works, Greer, SC    | • \$2 million in EDA funding   |  |
| BMW Pump Station Upgrade                       | • \$500,000 in SC RIA funding  |  |
| Greer Commission of Public Works, Greer, SC    |  |  |
| Transmission Main Improvements                 | <ul> <li>\$6.5 million, primarily funded by SRF</li> </ul>               |  |
| Liberty-Chesnee-Fingerville Water District, SC | \$500,000 in SC RIA funding  |  |
| Peach Valley Area Water System Upgrade         | • \$130,000 in CDBG funding  |  |
| Liberty-Chesnee-Fingerville Water District, SC | \$370.000 in SC RIA funding  |  |
| Floyd Road Project                             | • \$115,000 in CDBG funding  |  |
| Liberty-Chesnee-Fingerville Water District, SC | <ul> <li>\$258,000 in SC RIA funding</li> </ul>                          |  |
| Chesnee Water System Improvements              | • \$200,000 in CDBG funding  |  |
| Liberty-Chesnee-Fingerville Water District, SC | • \$250,000 in CDBG funding  |  |
| Mill Villages Water System Upgrades            |  |  |
| City of Anderson, SC                           | • \$500,000 in SC RIA funding  |  |
| Cox Creek Sewer Interceptor - Phase 1          |  |  |
| City of Anderson, SC                           | • \$4.5 million, primarily funded by SRF                                 |  |
| Pump Station Replacement Program               |  |  |
| City of Clemson, SC                            | • \$500,000 in SC PIA grant  |  |
| Cochran Road Wastewater Treatment Plant        | <ul> <li>Approximately \$14 million in USDA low interest loan</li> </ul> |  |
| Upgrades & Expansion                           |  |  |
| City of Lake City, SC                          | SRF Funding     USDA RD Water and Wastewater Dispersit Large and         |  |
| Lake City WWTP Expansion                       | USDA-KD Water and Wastewater Disposal Loan and<br>Grant Program funding  |  |
| Pioneer Rural Water District, SC               | • \$500,000 in ARC funding   |  |
| Lake Hartwell Water Treatment Plant            | Approximately \$12 million in USDA low interest loan                     |  |
| City of Goose Creek, SC                        | • \$7.3 million, primarily funded by SRF                                 |  |
| Water System Improvements                      |  |  |