

OCTOBER 17, 2022



REQUEST FOR QUALIFICATIONS

# ENGINEERING SERVICES

FOR VARIOUS PROJECTS AND ON CALL SERVICES

RFQ ISSUED: SEPTEMBER 12, 2022

SUBMITTED TO  
**MUNICIPAL ASSOCIATION OF  
SOUTH CAROLINA**

SUBMITTED BY  
**MICHAEL BAKER INTERNATIONAL**  
700 Huger Street Columbia, SC 29201

**Michael Baker**  
INTERNATIONAL

Jake Broom  
Chief Operating Officer  
Municipal Association of South Carolina  
jbroom@masc.sc

OCTOBER 17, 2022

**RE: RFQ - Engineering Services for Various Projects and On Call Services**

Dear Mr. Broom

The State of South Carolina boasts a varied landscape consisting of rural and urban communities in midland, piedmont and coastal regions that feature utility projects of a multitude of scopes and complexities. Thus, municipalities with smaller or lower profile projects often have difficulties procuring engineering services in support of their efforts. Michael Baker International, Inc. (Michael Baker) and its three fully-staffed South Carolina offices have served every county and numerous municipalities throughout the state. We are proximately located and prepared to provide engineering services to local governments with projects of all sizes.

**MICHAEL BAKER AND OUR TEAM OFFER THE MUNICIPAL ASSOCIATION OF SOUTH CAROLINA (MASC) THE FOLLOWING:**

**COMPLETE WATER & WASTEWATER SERVICES**



*Our team offers comprehensive technical expertise to address design complexities on utility projects for urban, suburban and rural environments. Michael Baker's in-depth experience in relevant design and construction standards, policies and procedures, along with an understanding of South Carolina regulatory agency requirements.*

**RIGHT AROUND THE CORNER**



*With fully-staffed operations centers in Columbia, Charleston, and Greenville, the Michael Baker team is well-poised to offer rapidly dispatched service on projects all across the state, regardless of region, type, and complexity. These offices have served all 46 counties in South Carolina.*

**FEDERAL + STATE FUNDING SPECIALISTS**



*Our team has in-depth knowledge of finding/securing funding for municipalities in support of their utility projects. We have recent project experience using State Revolving Funds and South Carolina Infrastructure Program grants.*

Our team is committed to assisting municipalities with their initiatives to improve water and sewer systems and associated ancillary infrastructure to deliver an efficient future to their citizens. We look forward to this opportunity to be of service and work collaboratively with MASC and the municipalities you represent to deliver innovative, robust, and fiscally accessible improvements to support residents and visitors alike. We thank you for your consideration.

Sincerely,

MICHAEL BAKER INTERNATIONAL, INC.

Renée Tison, PE  
Principal-in-Charge  
rtison@mbakerintl.com  
803-960-7217

Kyle Crager, PE  
Program Manager/Main Point of Contact  
kcrager@mbakerintl.com  
803-331-3637



TAB 1

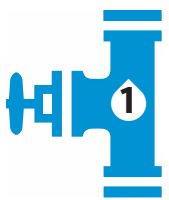
# TECHNICAL APPROACH/ UNDERSTANDING

Michael Baker is an industry leader helping municipalities to install, rehabilitate, and upgrade their water systems and facilities. This team will meet established budgets and timelines for each client by employing tried and true project approach standards that have been proven successful on hundreds of municipal projects throughout South Carolina.

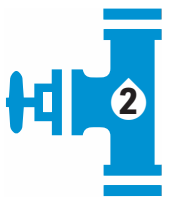
## MICHAEL BAKER EXCEEDS EXPECTATIONS

Michael Baker has a successful history working with clients on tight deadlines and budgets in support of their diverse goals. We are committed to providing the necessary resources to execute each and every municipal project that arises from this contract. Our firm's local team includes over 100 professionals throughout South Carolina backed by our firm-wide resources of over 3,500 personnel. Michael Baker possesses ample resources and uses state-of-the-art management software to maintain schedule and compliance. Our corporate policies require frequent updating of staffing and workload projections, so tracking systems reflect the latest available information. This allows project teams to be supplemented from in-house resources to meet surges in workload or unexpected deadlines.

Michael Baker's professional services for municipal water projects includes a vast array of knowledge and skills that MASC and their constituent municipalities can utilize. For on-call contracts such as this one, our goal is to provide the right team for the right project. Depending on the type of project, scope of services, and location of project the Principal-In-Charge and the Program Manager will align the proper team and staff for each assignment. We firmly believe that the key to success is a clear approach tailored specifically to each project that outlines management and communication. All assignments would likely include the following:



**Meetings:** Successful projects begin with a kick-off meeting. Here we define the roles and responsibilities of the Michael Baker and municipal team members, to understand the project requirements and expectations. Project update meetings will be scheduled to keep the client apprised of progress and review any issues. Successful projects begin with communication and continue with communication throughout the project duration. We will proactively coordinate with utility owners, stakeholders, and permitting agencies as appropriate in all design steps.



**Planning & Permitting:** Comprehensive planning/evaluations provide a sound foundation for any project and traditionally begin with a Preliminary Engineering Report (PER). In the past five years, Michael Baker's Mid-Atlantic region has authored hundreds of PERs, feasibility studies, technical memoranda for pump stations, water and sewer system improvements, tanks, and metering facilities. In addition, Michael Baker has prepared numerous planning documents including Emergency Management Plans, GIS implementation or integration plans, hydraulic modeling plans, master plans and economic analyses. These reports are used as a basis of design for infrastructure improvements and for regulatory approval. The reports will also provide the client with careful evaluation of alternatives, engineering feasibility, easement and permit needs, economic analysis, public perception, operation and maintenance issues and construction costs. Should the assigned project not warrant in depth planning studies, this phase can be foregone to further streamline project design.



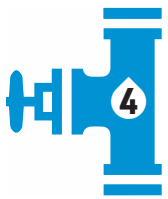
**Cost Estimating:** A clear understanding of the costs, benefits, and constraints of proposed projects is critical to successful implementation of a capital improvement plan (CIP). Michael Baker has developed detailed cost estimates for projects; evaluated constraints, such as property ownership or permitting issues for state and local land-disturbance and other permits; and developed prioritizations based on these and other criteria. With this data the municipal team members will be able to review CIP planning and if needed, redefine project goals. We firmly believe a properly evaluated project plan will help define the design and budget of any successful project.



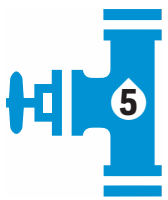
### PRINCIPAL STRENGTHS OF OUR TEAM

The Michael Baker team consists of knowledgeable, capable, and committed professionals assembled to provide clients with high-quality service within their required schedules. We will deliver the best value solution with our principal strengths:

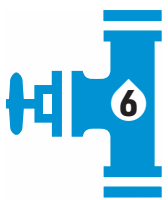
- ✓ Solid managerial commitment from start to finish
- ✓ Dedicated, highly responsive, and capable team with proven track records
- ✓ A genuine teamwork approach and commitment to excellence
- ✓ Positive assurance of on-time completion
- ✓ Professional design services that are community sensitive and environmentally conscious



**Surveying/SUE Services:** Surveying services are an integral part to the successful design and construction of infrastructure projects. It's important to know existing above-ground physical features and underground utilities along a pipeline project corridor to identify any potential conflicts and determine project constructability early in the design. Similarly, easements, right-of-way and property limits also need to be identified early to define easement and/or property acquisition requirements for pipeline, pump stations, or other facilities. Michael Baker will provide the surveying and any necessary sub-surface exploration necessary for any projects. Once the field survey has been completed, a base map is developed for design purposes for use by the project team.



**Hydraulic Modeling:** Hydraulic modeling is useful in determining current system capabilities and deficiencies, and in planning for future expansion and/or modifications to current operations to optimize the system and facility usage. These may include evaluation of new water main routing alternatives, fire flow capacity analyses, population/demand growth projections, emergency storage alternatives, system pressure requirements, operational modifications to raw and finished water facilities, water main flushing and tank turnover operation, and creation of a new (additional) system pressure zones. Our hydraulic modeling team can build hydraulic models from your existing GIS and validate and calibrate the hydraulic models. We have the expertise in working with most of all the prominent software packages such as InfoWater (all associated extensions), H2OMap Water, WaterCAD, SewerCAD, WaterGEMS, and Sewer GEMS.



**Milestone reviews:** Milestone reviews are formal in-house design and construction service reviews chaired by Quality Assurance personnel. This step evaluates the progress and quality of the projects and requires adjustments as needed. Michael Baker's QA/QC initiatives ensure client satisfaction throughout all stages of a project. Quality Assurance begins with the Michael Baker employees performing the initial work efforts on each project. From our dedicated AutoCAD drafters to all of our engineers, each employee has extensive experience in municipal engineering projects. This experience provides a strong foundation for each project. In addition, because Michael Baker often assigns several experienced engineers on any one project (depending on the scope of the project), inherent QA/QC mechanisms are built into the process through constant engineering review of work performed.

Subsequent reviews of any deliverable submitted to the client are conducted to ensure the work of project engineers and drafters are accurate and meet client needs. An independent peer review is conducted to check all design calculations and technical content. Those who created the document(s) address any comments generated during the peer review process. The task manager, working directly for the project manager, provides day-to-day management of an individual project and ensures that project submittals fulfill the project scope of work. Finally, the Program Manager, who provides oversight for all projects assigned under the contract, is responsible for ensuring that submittals for each project fulfill the client's needs and priorities. In essence, the Michael Baker QA/QC guidelines ensure:

- **Accuracy** through multiple submittal review phases.
- **Consistency** by maintaining a project manager familiar with client needs.
- **Continuity** by dedicating personnel for the duration of projects.



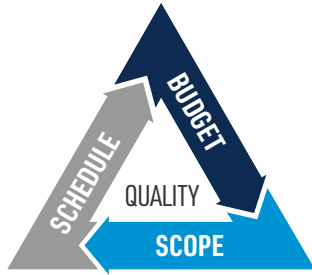
## COMMUNICATIONS DURING DESIGN

The challenge begins with the internal coordination required to provide accurate and interpretable updates for the Client. The Michael Baker team accomplishes this through a direct line of communication that begins with **Program Manager Kyle Crager, PE**. Kyle will communicate directly with the Client to provide regular updates on the assigned project – specifically reporting on design phase activities, conflicts or potential risks to the project, scheduling, and overall project success. He will be the single point of contact to streamline this effort and provide quality, comprehensive project updates.

## MILESTONE REVIEWS

- Project Kickoff
- Completion of Preliminary Design (50%)
- Completion of Pre-Final (90%) Design
- Inception of Construction Services

## A COMMITMENT TO QUALITY



Michael Baker is committed to providing our clients the quality projects that they have come to expect. Our team stresses the use of a proper QA/QC process to avoid unnecessary design errors and to make certain our clients' submittals need minimal review. The Michael Baker team - **through our QA/QC Manager, Donald Gartrell, PE** - will incorporate quality assurance in each phase of the project in accordance with internal Michael Baker Quality Assurance and Risk Management practices. Donald has led numerous utility-related technical design projects over the course of his nearly 40 year career. He has an integral knowledge of water and sewer design projects and regularly reviews plans and advises engineers on design issues. He will oversee independent review of design deliverables prior to submittal and will ensure that QA/QC measures are undertaken and corrective measures are completed. Together with the Program Manager, Kyle Crager, PE, Donald will facilitate QA/QC for all projects, specifically performing:

- QA/QC meetings with the engineering teams to discuss project objectives, scope, staff assignments, deliverables, and deadlines.
- Review of all calculations, plans, specifications, and reports for completeness, accuracy, and constructability prior to final submittal.
- Audits to ensure all design plans are properly reviewed and back checked prior to final plan submission.



**Bidding Services:** Bidding projects for each Client will be dependent upon their respective procurement policies. We will provide plans, technical specifications, and if deemed necessary, contractual specifications to the Client's standards. We see a varied level of involvement depending on the procurement department, but we are fully experienced and prepared to handle complete preparation of the bid package, or only plans and technical specs, as necessary. During bidding we will assist the Client in contractor solicitation, necessary pre-bid conferences, response to questions and the issuance of any necessary addenda. Once bids are opened, we will compile bid tabulations, check bidder references and provide a recommendation to award

back to the Client, typically in less than three business days. The bid package prepared by our team will create a clear set of biddable and constructible plans that will not only encourage more bidders but encourage aggressive bid pricing due to the amount of information available. Our technical measurement and payment sections will clearly assure contractors and the Client terms and deliverables. Our attention to detail in this critical project step will shine through construction by minimizing potential change orders and mitigating potential schedule delays.



**Construction Services:** Michael Baker's approach to construction phase services provides clients the required administration, management, and field inspection services necessary to ensure the contractor's conformance and to enhance the contractor's performance under the contract documents. Our services are dynamic to address unforeseen challenges and provide proactive resolution encountered during construction, from award of the construction contract through completion of the contractual warranty period.

The primary focus of our construction services includes a thorough knowledge and implementation of the conformed contract documents including plans, specifications, bid item descriptions, addenda items and/or any other changes to the original bid documents, shop drawings, lay schedule(s) and materials list(s), and compliance with the Client's latest Standards and preferences and requirements. A full and clear understanding of roles, responsibilities, and authority, coupled with our team's technical knowledge, savvy, and prudence enables us to maintain a high-level of quality in our construction phase services. Objectives under our construction phase services for this project to include the following:

- On-time completion within budget;
- Compliance with the conformed contract documents and project objectives; and
- Claims protection to the Client that may result from changed conditions.

Michael Baker's approach to achieve these objectives translates across administration, management and inspection team members, and includes continuous and meticulous attention to detail.

## CLIENT TESTIMONIALS

The Michael Baker team has been responsible for the coordination, management, and design of numerous infrastructure improvement projects for agencies throughout South Carolina. Our team prides itself on meeting project schedules and budgets, while exceeding client service expectations. The Municipal Association of South Carolina can rest assured Michael Baker will deliver the same excellent, high-quality, client-driven services to your constituent municipalities.



*York County approved a contract with Michael Baker to design a new 24" gravity sewer line through the New Heritage Community... Mike Leath, Project Manager and Senior Construction Associate with Michael Baker, was introduced at the first Construction Progress Meeting on April 7, 2021. He has been the project representative of Michael Baker ever since. Mr. Leath's desire to be fair has been obvious to us all and he has represented the County's interests effectively and judiciously. Mr. Leath has a depth of understanding about the construction processes and the construction community that allows him to see potential issues and snares ahead. Having him on the job made the work much easier for my inspector and myself. He would always discuss problems with us prior to addressing them to with the contractor. He kept our team in the loop so we were not surprised by issues when they were brought up. Let me end by saying Mike Leath has been a great asset in the construction of this sewer line and York County looks forward to working with him and his associates at Michael Baker again in the future.*

**Barry McKinnon, PE**  
Utility Program Manager, York County



*When it comes to permit applications, I see a wide variety in terms of quality and these were well done. I appreciate your attention to detail and thoroughness.*

**Wayne Shealy, PE**  
Project Manager, State Revolving Fund Program-BOW  
SC Dept. of Health & Environmental Control



*Michael Baker's construction administration performance on the 48" Sanitary Sewer Interceptor Replacement along Broad River and Crane Creek including By-say Pass Pumping was exceptional to say the least...The teamwork and communication throughout the project were excellent.*

**John Riggs, PE**  
Assistant Wastewater Engineer, Columbia Water



TAB 2

# WORK MANAGEMENT PLAN/ EXPERIENCE OF PROPOSED PERSONNEL



The Michael Baker team is made up of personnel with an array of civil engineering service experience. We will expediently address client demand, as our team is structured to utilize all personnel to provide adequate capacity and coverage for all assignments.



We believe the key to the successful completion of a project begins with the Program Manager. Kyle Crager, PE will have responsibility for maintaining client contact, allocating resources to meet critical deadlines, maintaining budget and cost control, and assuring each client receives a top-quality product through the application of peer review and the Michael Baker Way Project Management Program (PMP). The Michael Baker Way PMP is a detailed compilation of tools and reporting requirements focused on ensuring project manager success. Project managers at Michael Baker are identified based on their ability, knowledge, experience, and demonstrated capability through continuous training and testing with this process.

The team featured below will be managed by Kyle locally from our Columbia, South Carolina office, with day-to-day project management supervision by Ellen Chassereau. Brief resumes for each key staff member begin on the next page. In addition to 107 personnel located throughout South Carolina, we offer more than 3,500 staff available in-house to address unique challenges and provide a wide range of specialty services.

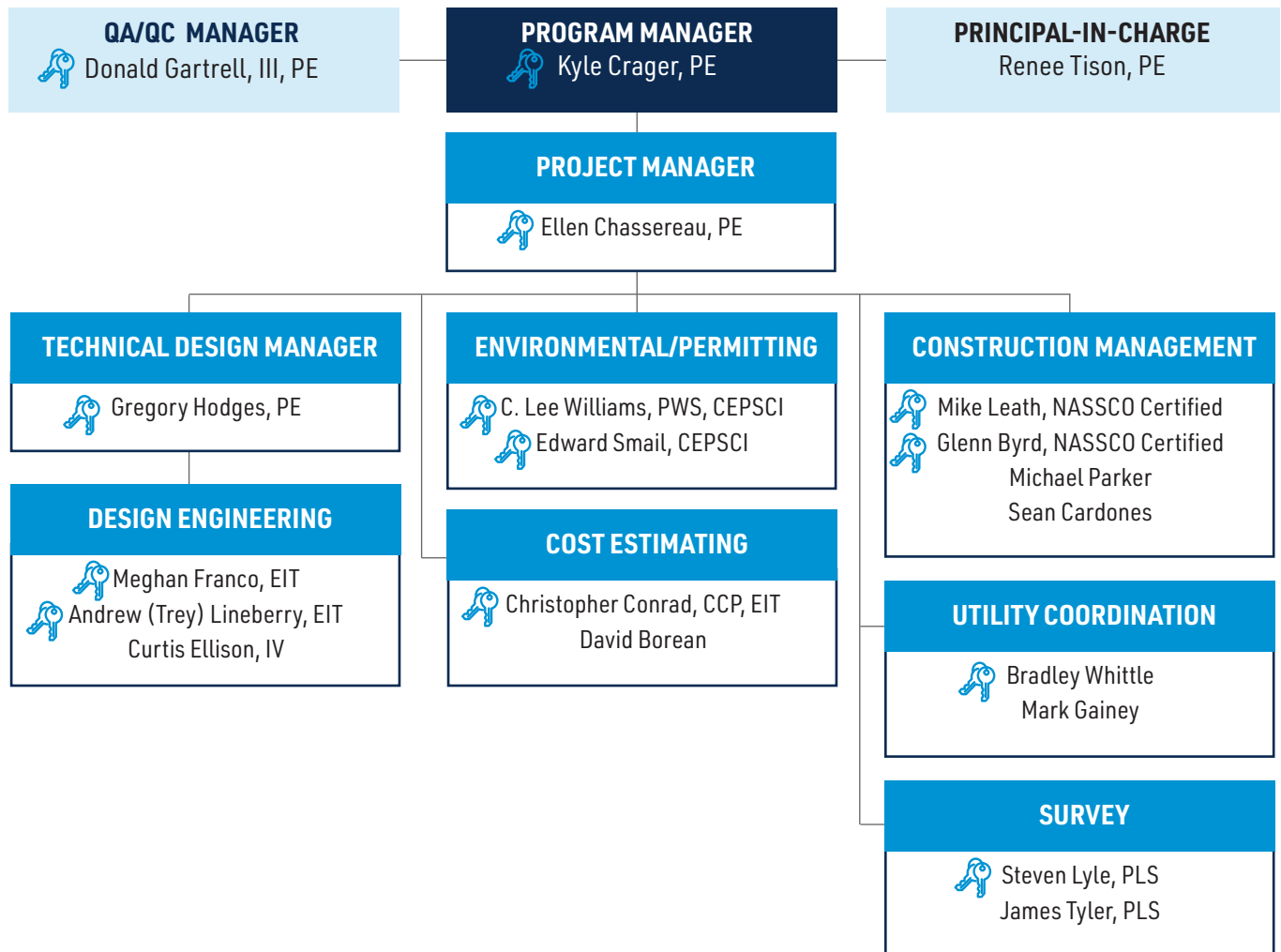
**A PROVEN LEADER**  
 Kyle has project management experience in a wide range of water, wastewater and stormwater projects for municipal clients.

**A LOCAL LEADER**  
 He's the face of Michael Baker's water/wastewater practice in South Carolina, providing leadership for our local teams and serving our clients with the highest quality.

**A RESILIENT LEADER**  
 Kyle has demonstrated his ability to pivot, work remotely, and innovate in challenging conditions, making him a sought-after project manager.

## ORGANIZATIONAL CHART

Key Personnel - Resume Included



## PROJECT MANAGER

# Kyle Crager, PE

Mr. Crager is a project manager specializing in the design and analysis of water and wastewater infrastructure. His responsibilities have included performing design, management, utility coordination, and construction administration of sanitary sewer and municipal water projects. His typical projects include potable water distribution systems, booster stations, water storage facilities, sanitary sewer collection systems, sewer pump stations, sewer rehabilitation and hydraulic studies associated with permitting. He also has extensive experience in project funding and grant writing for local, state and federal funding agencies.



**17** YEARS OF EXPERIENCE DESIGNING AND MANAGING MUNICIPAL WATER AND WASTEWATER PROJECTS OF ALL SIZES

**RELEVANT EXPERIENCE**

**Olympia Mills Sewer Rehabilitation, Columbia, South Carolina.** *City of Columbia.* **PROJECT MANAGER.**

Assisted with the design of 17,500 LF of new 8-inch, 10-inch and 12-inch gravity sewer replacement to serve the historic Olympia Mills district. Project will provide rehabilitated sewer service to approximately 350 homes in this area.

**Red Bank Road Gravity Upgrade, Goose Creek, South Carolina.** *Berkeley County Water & Sanitation.*

**PROJECT MANAGER.** Helped with the design, permitting, bid support, contract administration and construction oversight for the replacement of 5,500 LF of existing 30-inch force main and 36-inch RCP gravity sewers within the limits of a 7-lane arterial highway in Goose Creek, South Carolina. Project included the innovative approach of pipe bursting 36" RCP and replacing with 42-inch HDPE, providing a significant cost savings to the Owner.

**New Heritage Phase II Gravity Sewer, Fort Mill, SC.** *York County.* **PROJECT MANAGER.**

Responsible for design, permitting, bidding and construction administration of the installation of approximately 8,200 LF of 24-inch gravity sewers. Michael Baker conducted a study of the New Heritage Drainage Basin in Fort Mill for the evaluation of a large diameter gravity interceptor line to eliminate the need for multiple pump stations within the dense residential drainage basin. Additional tasks include design, permitting, and construction services.

**McDaniel Avenue Emergency Sewer Replacement, Greenville, SC.** *City of Greenville, SC.*

**CLIENT ADVISOR.** Responsible for overseeing the sewer replacement associated with the SCDOT emergency repair to the McDaniel Avenue Bridge over the Reedy River. Michael Baker is assisting the City with plans and specifications to upsize the gravity line to 18", coordinate with bridge construction and design the additional 600 LF of 18" gravity sewer to complete the line upsizing. Michael Baker surveyed, designed and issued construction plans by April 2022, and the project is currently in bid stage.

**Canal Embankment Repair, Columbia, SC.** *City of Columbia.*

**PROJECT MANAGER.** Responsible for overseeing repair of pedestrian facilities associated with the Columbia Canal repair project. Michael Baker is providing engineering services, permitting, and construction administration for the canal embankment repair along the Three Rivers Greenway. The project includes three sites that were impacted from the October 2015 floods. Services include project management, preliminary and final pedestrian and structural design, wetland investigation, city and agency coordination, permitting, bidding-phase support, and construction administration.

**Gills Creek Sewer Rehabilitation, Columbia, SC.** *City of Columbia.*

**PROJECT MANAGER.** Managed the design of 6,500 LF of new 36-inch and 60-inch gravity sewer to provide capacity relief to the lower Gills Creek watershed. Project will provide an additional 10 MGD of capacity to this lower trunk section of the City's existing sewer collection system.

**Upper Crane Creek Sewer Capacity**

**Improvements, Columbia, SC.** *City of Columbia.*

**PROJECT MANAGER.** Managed the 13,500 LF of 21-inch and 30-inch gravity sewer replacement associated with the CW2020 program. Project consists of performing basin build out analysis and implementing improvements within the upper most reaches of the Crane Creek sewer basin then designing and constructing necessary sewer capacity improvements to promote continued growth in the area.

**Miscellaneous Lift Station**

**Improvements, Columbia, SC.** *City of Columbia.*

**PROJECT ENGINEER.** Responsible for the design, permitting, and construction administration of the rehabilitation of 12 existing City of Columbia sewer lift stations. Michael Baker is providing engineering services for the rehabilitation of eight existing pump stations within the city of Columbia system. Tasks include consultation, design, permitting, bidding, construction administration, and inspection services.

**Education**

B.S., 2006, Agricultural and Environmental Engineering

**Licenses/Certifications**

Professional Engineer, SC, NC

**Office Location**

Columbia, SC

PROJECT MANAGER

# Ellen Chassereau, PE

Ms. Chassereau is an assistant project manager with experience in design, modeling, permitting, bidding, and construction phase services with water and wastewater for public and private clients. Her experience includes potable water distribution systems, sanitary sewer collection systems, and rehabilitation projects for water and wastewater systems. She has additional project experience in water booster stations, water storage facilities, sewer pump stations, and hydraulic water studies. Ms. Chassereau is also experienced in project funding and grant writing for local, state and federal funding agencies.



Years Experience **6**

**RELEVANT EXPERIENCE**

**FY22 Water Improvements, Berkeley County, South Carolina.** *Berkeley County Water & Sanitation.* **ASSISTANT PROJECT MANAGER.** Responsible for the design, permitting and project administration for a redundant 20-inch water main crossing of the Tail Race Canal for the East Cooper Water system, a new water connection to the Briddleford Subdivision, and emergency connection to Charleston Water System.

**McDaniel Avenue Sewer Replacement, Greenville, South Carolina.** *City of Greenville.* **ASSISTANT PROJECT MANAGER.** Responsible for the design, permitting and project administration for the upsizing of 600 LF of an existing 12-inch to 18-inch gravity sewer located under roadway. A portion of

the project includes 60 LF of pipe suspension from the roadway bridge over the Reedy River.

**Gills Creek Relief Sewer, Columbia, South Carolina.** *City of Columbia.* **ASSISTANT PROJECT MANAGER.** Responsible for the design, permitting and project administration, including coordination with the protégé to provide capacity relief to the lower Gills Creek watershed. The design consisted of 6,500 LF of 36-inch DIP sewer relief and 1,700 LF of 48-inch DIP gravity sewer via open cut, microtunneling, and jack and bore that will provide an additional 10 MGD of capacity to this lower trunk section of the City's existing sewer collection system.

**Education**  
B.S., 2015,  
Environmental  
Engineering

**Licenses/Certifications**  
Professional Engineer,  
SC

**Office Location**  
Columbia, SC

TECHNICAL DESIGN MANAGER

# Gregory Hodges, PE

Mr. Hodges is experienced in civil engineering management, design, permitting, and construction services. His experience includes work on water and sewer systems for municipal clients and hydrologic design for roads and bridges. He has executed dozens of civil site layout, grading and drainage design, storm water management, and underground utility projects.



Years Experience **29**

**RELEVANT EXPERIENCE**

**Olympia Mills Sewer Rehabilitation, Columbia, South Carolina.** *City of Columbia.* **DESIGN MANAGER.** Responsible for site layout and design of an entire sanitary sewer gravity main system in with 330 new sewer connections, including Construction Drawings and Specifications.

**New Heritage Phase II Gravity Sewer, Fort Mill, South Carolina.** *York County, South Carolina.* **SENIOR CIVIL ENGINEER.** Civil engineering consulting, analysis, and design of a new gravity sewer main ranging from 12" to 24" diameter. This new system is planned to replace five existing sewer pump stations. Michael Baker conducted a study of the New Heritage Drainage Basin in Fort Mill for the evaluation of a large diameter gravity interceptor line to eliminate the need for multiple pump stations within the dense residential drainage basin. Additional tasks include design, permitting,

and construction services.

**Red Bank Road Gravity Upgrade, Goose Creek, South Carolina.** *Berkeley County Water & Sanitation.* **ASSISTANT PROJECT MANAGER.** Responsible for site layout and design of an upsized sanitary sewer gravity and force main trunk line via pipe bursting in a South Carolina Department of Transportation (SCDOT) roadway, including construction drawings, specifications, SCDOT Maintenance of Traffic plans, bidding assistance, and construction support.

**I-26 Water and Sewer Relocation, Berkeley County, South Carolina.** *Berkeley County, SC.* **SENIOR CIVIL ENGINEER.** Responsible for site layout and design of domestic water main and sanitary sewer gravity and force main relocations, including Construction Drawings and Specifications for a SCDOT interchange improvement project.

**Education**  
B.C.E., 1992, Civil  
Engineering

**Licenses/Certifications**  
Professional Engineer,  
SC

**Office Location**  
Columbia, SC

QA/QC

# Donald Gartrell, PE



Mr. Gartrell has experience in the design and management of general civil and utility related engineering projects. His assignments have included an extensive number of wastewater collection projects as well as potable water distribution and utility rehabilitation and relocation projects. He has also provided design and project management for land development, roadway and waterfront projects.

Years  
Experience **39**

## RELEVANT EXPERIENCE

### New Heritage Phase II Gravity Sewer, Fort Mill, South Carolina. York County, SC. SENIOR ENGINEER.

Provided technical assistance for the evaluation of the County's existing sanitary sewer system in the New Heritage service area. Developed a Technical Memorandum presenting various alternatives for delivering sewage flow to the County's New Heritage Pump Station. The memo included Opinions of Probable Construction Cost, maps and other various drawings that presented the several alternatives that were identified and evaluated. A recommendation was included.

**Arundel Gateway Sewage Pumping Station, Anne Arundel County, Maryland.** Greenberg Gibbons Commercial Corporation. QA/QC ENGINEER. Reviewed the

final design documents and hydraulic calculations for this wastewater pump station and provided detailed comments. Michael Baker is providing engineering services for the design of a new 1,800-gallon-per-minute sewage pumping station to serve the 252-acre, mixed-use Arundel Gateway development, which includes retail and office space, housing, a 10-acre church site, and a hotel. Michael Baker prepared a preliminary design report and is preparing plans, specifications, and design drawings and permit applications for the new pumping station.

**Red Bank Road Gravity Upgrade, Goose Creek, South Carolina.** Berkeley County Water & Sanitation. SENIOR ENGINEER. Provided technical design consultation and quality control review of documents.

## Education

Coursework, Old Dominion University

## Licenses/Certifications

Professional Engineer, VA, NC

## Office Location

Virginia Beach, VA

DESIGN ENGINEER

# Meghan Franco, EIT



Ms. Franco is experienced in design, modeling, permitting, bidding, and construction phase services with water, wastewater, stormwater, and site development projects for public and private clients. Her past work experience and current projects include potable water distribution systems, sanitary sewer collection systems, wastewater pump stations, gravity sewer design and rehabilitation, hydraulic studies, and stormwater conveyance projects.

Years  
Experience **4**

## RELEVANT EXPERIENCE

### Gills Creek Sewer Relief Phase 1, Columbia, South Carolina. City of Columbia. DESIGN ENGINEER.

Assisted with design, plan production, and permitting for a project to provide capacity relief to the lower Gills Creek watershed. The design consisted of 6,500 LF of 36-inch DIP sewer relief and 1,700 LF of 48-inch DIP gravity sewer via open cut, microtunneling, and jack and bore. The project will provide an additional 10 MGD of capacity to this lower trunk section of the City's existing sewer collection system.

**Olympia Mills Sewer Rehabilitation and Relocation, Columbia, South Carolina.** City of Columbia. DESIGN ENGINEER. Lead designer for a sewer relocation and rehabilitation project in the old Olympia Mills Village. The project involves relocating old sewer mains from behind homes to the road to allow for easier maintenance, as

well as the rehabilitation of the existing sewer trunk lines. The design consists of installation of 15,000 LF of 8-inch gravity sewer main and 2,300 LF of 12-inch gravity sewer trunk line via open cut and 2,000 LF of existing sewer trunk line to be pipebursted. The project includes the installation of over 300 new sewer lateral reconnections on private property.

**Red Bank Road Gravity Upgrade, Goose Creek, South Carolina.** Berkeley County Water & Sanitation. DESIGN ENGINEER. Assisted with design, permitting, bid support, contract administration and construction oversight for the replacement of 5,500 LF of existing 30-inch force main and 36-inch RCP gravity sewers within the limits of a 7-lane arterial highway. Project included the innovative approach of pipe bursting 36-inch RCP and replacing with 42-inch HDPE.

## Education

B.S., 2018, Civil and Environmental Engineering

## Licenses/Certifications

Engineer-In-Training, SC

## Office Location

Columbia, SC

DESIGN ENGINEER

# Trey Lineberry, EIT



Mr. Lineberry is a civil associate in the water/wastewater group at Michael Baker and has two years of experience in water, wastewater, and environmental projects for public and private clients. His past work experience and current projects include sanitary sewer collection systems, wastewater pump stations, gravity sewer design and rehabilitation, and asset management.

Years Experience **2**

## RELEVANT EXPERIENCE

**Olympia Mills Sewer Rehabilitation and Relocation, Columbia, South Carolina.** *City of Columbia.* **DESIGN ENGINEER.** Assisted with data acquisition and preliminary design for approximately 12,000 LF of Gravity Sewer network. Project will include design, calculations, permitting, preparation of technical specifications, and construction administration for the replacement of rehabilitation of a large sewer network in a dense residential area.

**McDaniel Avenue Utility Relocations, Greenville, South Carolina.** *City of Greenville.* **DESIGN ENGINEER.** Served as design engineer for the betterment of approximately 600LF of 12" to 18" gravity sewer pipe associated with the SCDOT emergency bridge replacement project. Project included the

bridge suspended crossing of the City's sewer line, along with the replacement of the aerial crossing of the 8" water line for Greenville Water, and a phased MOT plan.

**Utility Asset Management, Cary, North Carolina.**

*Town of Cary.* **DESIGN ENGINEER.** Utilized GIS software to maintain and update a master database containing town utility data. Also assisted in the maintenance of a geodatabase created to track all project locations, stage of the construction, and provide access to all engineering drawings connected with that project. Provided input on the creation of a revamped sewer schema to more accurately document facility data. Projects included database updates based on survey and record drawings, creation of proposed utilities within the database, and the creation of a fire protection zone map.

**Education**

B.S., 2020, Biological and Agricultural Engineering

**Licenses/Certifications**

Engineer Intern, NC

**Office Location**

Columbia, SC

ENVIRONMENTAL

# C. Lee Williams, PWS, CEPSCI



Mr. Williams has professional environmental consulting experience with federal, state, and local government agencies. He has been responsible for conducting and oversight of delineations of wetland and non-wetland waters of the U.S., ecological reports/assessments, Biological Assessments for threatened and endangered species, Essential Fish Habitat assessments, Section 7 coordination, GIS mapping and analysis, compensatory mitigation monitoring, and NEPA documentation.

Years Experience **15**

## RELEVANT EXPERIENCE

**Gills Creek Sewer Relief Phase 1, Columbia, South Carolina.** *City of Columbia.* **ENVIRONMENTAL MANAGER.**

Responsible for leading the environmental services including wetland delineation, biological assessment, and securing a USACE Section 404 permit.

**New Heritage Phase II Gravity Sewer, Fort Mill, South Carolina.** *York County, SC.* **ENVIRONMENTAL SPECIALIST.**

Conducted a threatened and endangered species survey and delineation of waters of the US. Michael Baker conducted a study of the New Heritage Drainage Basin in Fort Mill for the evaluation of a large diameter gravity interceptor line to eliminate the need for multiple pump stations within the dense residential drainage basin. Additional tasks include design, permitting, and construction services.

**Sewer Improvements Phase 1, Columbia, South Carolina.** *City of Columbia.* **ENVIRONMENTAL MANAGER.**

Responsibilities included support and QA/QC for environmental services consisting of wetland/stream delineation, preparation of a Jurisdictional Determination request, and preparing and securing a Section 404 Nationwide Permit. Michael Baker is working for the City of Columbia and CleanWater2020 for a full-service project delivery of 13,500 linear feet of 21-inch and 30-inch gravity sewer replacement as part of a capacity improvement project. The project consists of preliminary evaluation, design, construction sequencing and bypass pumping design, trenchless construction design, and all additional facets of a large diameter trunk sewer replacement project.

**Education**

M.B.A., 2016, Business Administration, M.S., 2006, Forestry and Natural Resources, B.S., 2002, Veterinary Science

**Licenses/Certifications**

Professional Wetland Scientist, 2014, 2503

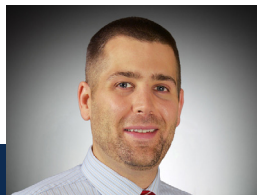
Certified Inspector of Sediment & Erosion Control, SC

**Office Location**

Columbia, SC

## ENVIRONMENTAL

# Ed Smail, CEPSCI



Mr. Smail has performed numerous wetland delineations and natural resource surveys throughout South Carolina serving as a principal author in the preparation of surface and aviation related Environmental Assessments leading to Findings of No Significant Impact. Mr. Smail is a South Carolina Certified Erosion Prevention and Sediment Control Inspector and his educational background is in biology and chemistry.

Years Experience **18**

**RELEVANT EXPERIENCE**

**St Stephens Waterline Replacement, Berkeley County, South Carolina.** *Berkeley County Water & Sanitation.* **ENVIRONMENTAL SPECIALIST.** Responsible for wetland delineations and Section 404 Wetland Permitting.

**Sheep Island Parkway - Water/Sewer Services, Berkeley County, South Carolina.** *Berkeley County Public Works.* **ENVIRONMENTAL SPECIALIST.** Responsible for wetland delineation and Section 404 Permitting. Michael Baker is providing surveying, design and construction administration services for the relocation of approximately 1 mile of water and wastewater relocation associated with the Sheep Island Interchange project.

**Sewer Improvements Phase 1, Columbia, South Carolina.** *City of Columbia.* **ENVIRONMENTAL SPECIALIST.** Responsible for wetland delineation and Section 404 Permitting. Michael Baker is working for the City of Columbia and CleanWater2020 for a full-service project delivery of 13,500 linear feet of 21-inch and 30-inch gravity sewer replacement as part of a capacity improvement project. The project consists of preliminary evaluation, design, construction sequencing and bypass pumping design, trenchless construction design, and all additional facets of a large diameter trunk sewer replacement project.

**Education**

B.S., 2003, Chemistry

B.S., 2002, Biology/  
Environmental Science

**Licenses/Certifications**

Certified Inspector of  
Sediment & Erosion  
Control, South  
Carolina, 2017, 12348

**Office Location**

Charleston, SC

## COST ESTIMATING

# Christopher Conrad, CCP, EIT



Mr. Conrad has experience in construction cost estimating, engineering, project management, and construction management. He has been trained to perform cost estimates in various software applications, including SUCCESS, MII, MCACES, RSMMeans Costworks, Timberline Estimator, and Excel. He routinely prepares cost estimates -at all stages of design - as IDIQ task orders for numerous public and private clients.

Years Experience **37**

**RELEVANT EXPERIENCE**

**Stormwater Condition Assessment and Designs, Norfolk, Virginia.** *Naval Facilities Engineering Command, Mid-Atlantic.* **COST ESTIMATOR.** Provided cost estimates for more than 50 dry swale, wet swale, constructed wetland, and bioretention facilities to assist NAVFAC Mid-Atlantic with stormwater best management practice efforts.

**New Water Department Facilities, St George, South Carolina.** *Town of St George.* **COST ESTIMATOR.** Provided cost estimates for the new facility design that re-organized the existing water department compound to provide a new operations building for the repair and storage of water department vehicles, tools, and materials. Michael Baker designed an adaptive re-use of the historic city hall

building to provide new offices and shop space for the water department staff.

**Stormwater Outfall and Bulkhead Condition Assessment and Repair Designs, Naval Station Newport, Middletown, Rhode Island.** *NAVFAC Mid-Atlantic.* **PROJECT MANAGER.** Led the team performing cost estimating services for this project. Michael Baker inspected, surveyed, and designed repairs for six stormwater system outfalls and five bulkheads at Coddington Cove area located at Naval Station Newport. The project included development of a basis of design report, a 35-percent design package, and a final design package. Michael Baker also assessed the stormwater and sanitary sewer system at the Navy War College located at Naval Station Newport.

**Education**

B.S.C.E.,  
Structural, 1989

**Licenses/Certifications**

Certified Cost  
Professional,  
Worldwide, 2019,  
3337

Engineer-In-Training,  
Colorado, 1989, 36579

**Office Location**

Alexandria, VA

CONSTRUCTION MANAGEMENT

# Mike Leath, NASSCO CERTIFIED



Mr. Leath is qualified in construction administration, contract administration, and the preparation of contract documents. He has performed these services for DOE, government agencies, corrections, and the private sector. His experience includes complete preparation of contract documents to total contract administration.

Years Experience **52**

**RELEVANT EXPERIENCE**

**Gills Creek Sewer Relief Phase 1, Columbia, South Carolina.** *City of Columbia.* **CONSTRUCTION MANAGER.** Responsible for providing construction administration. This project will provide capacity relief to the lower Gills Creek watershed. The design consisted of 6,500 LF of 36-inch DIP sewer relief and 1,700 LF of 48-inch DIP gravity sewer via open cut, microtunneling, and jack and bore. The project will provide an additional 10 MGD of capacity to this lower trunk section of the City's existing sewer collection system.

**Olympia Mills Sewer Rehabilitation and Relocation, Columbia, South Carolina.** *City of Columbia.* **CONSTRUCTION MANAGER.** Responsible for providing construction administration. The project involves relocating old sewer mains from behind homes to the road

to allow for easier maintenance, as well as the rehabilitation of the existing sewer trunk lines. The design consists of installation of 15,000 LF of 8-inch gravity sewer main and 2,300 LF of 12-inch gravity sewer trunk line via open cut and 2,000 LF of existing sewer trunk line to be pipebursted. The project includes the installation of over 300 new sewer lateral reconnections on private property.

**Red Bank Road Gravity Upgrade, Goose Creek, South Carolina.** *Berkeley County Water & Sanitation.* **CONSTRUCTION INSPECTOR.** Responsible for the Red Bank Road Gravity Sewer Upgrade including 5,000 linear feet and 14 manholes. This project includes replacement of 5,500 LF of existing 30-inch force main and 36-inch RCP gravity sewers within the limits of a 7-lane arterial highway.

**Education**  
B.A., 1976, History

**Licenses/Certifications**  
NASSCO Manhole, Pipeline, & Lateral Assessment Certification

Multiple SCDOT CE&I certifications

**Office Location**  
Columbia, SC

CONSTRUCTION MANAGEMENT

# Glenn Byrd, NASSCO CERTIFIED



Mr. Byrd is a senior inspector and construction specialist. He is extremely well-versed in SCDOT construction standards and provides leadership and mentoring to his teammates. Mr. Byrd effectively facilitates work activities among his team and performs quality control sampling and testing to ensure overall project requirements are met.

Years Experience **35**

**RELEVANT EXPERIENCE**

**Crane Creek Sewer Main Construction, Columbia, South Carolina.** *City of Columbia.* **CONSTRUCTION INSPECTOR.** Lead Inspector for Crane Creek 48-inch Sanitary Sewer Interceptor Replacement along Crane Creek and Broad River. Responsible for inspection of all construction of temporary sewer bypass, new 48" sanitary sewer line which is approx. 7200 L.F. Responsible for inspection and material testing for Crane Creek Sanitary Sewer Equalization Basins consisting of (2) 7 million gallon storage tanks. Responsibilities also include conducting existing sewer manhole assessments from Highway 215 - Lake Elizabeth, Smiths Branch, and Crane Creek. Michael Baker provided engineering and construction phase services related to installation of approximately 7,650 linear feet of 48-inch

ductile iron pipe gravity sanitary sewer interceptor; 8,500 linear feet of 30-inch HPDE bypass line; and a 19 MGD bypass pumping station for repair and replacement of utilities along Broad River and Crane Creek. The replacement also included 24 feet of bypass pumping, 30 manholes, three railroad borings, and two additional borings.

**Harden Street Streetscaping Design, Columbia, South Carolina.** *City of Columbia.* **CONSTRUCTION INSPECTOR.** Provided the inspection and monitoring of construction and rehabilitation of sanitary sewer lines, water lines and storm drainage to assure that the work and materials are in compliance with City, State, and Federal specifications, policies and regulations as designed and described in the plans and contract.

**Licenses/Certifications**  
NASSCO Manhole, Pipeline, & Lateral Assessment Certification

Multiple SCDOT CE&I certifications

**Office Location**  
Columbia, SC

UTILITY COORDINATION

# Bradley Whittle



Mr. Whittle has worked on utility projects across South Carolina for over two decades. His experience includes utility design and utility coordination on municipal, county and state projects of various scopes and scales. His understanding of project requirements and construction sequencing allows him to prioritize relocations accordingly. He has a great working relationship with utility companies in the southeast and has a long history of keeping projects on task and on schedule.

Years Experience **24**

**RELEVANT EXPERIENCE**

**McDaniel Avenue Sewer Replacement, Greenville, South Carolina.** *City of Greenville.* **UTILITY COORDINATOR.** Responsibilities included coordinating all utility relocations and accommodations necessary to ensure that the project delivery schedule is met. This project includes the upsizing of 600 LF of an existing 12-inch to 18-inch gravity sewer located under roadway. A portion of the project includes 60 LF of pipe suspension from the roadway bridge over the Reedy River.

**Dorchester County Convenience Site, Dorchester County, South Carolina.** *Dorchester County.* **UTILITY COORDINATOR.** Responsibilities included assisting coordination of water and sewer connections. Coordination included contacting various water and sewer utility owners to

determine the availability of water and sewer service, service size and alignment. Coordinated early with utility owners to ensure that the projects schedule was not compromised. The project includes the evaluation and design of various improvements at 14 convenience sites throughout Dorchester County.

**Woodruff Road Congestion Relief Project Preliminary Engineering Efforts, Greenville, South Carolina.** *MetroConnects.* **UTILITY COORDINATOR.** Responsibilities included coordinating all utility relocations and accommodations necessary to ensure that the project delivery schedule is met. Michael Baker is assisting MetroConnects in the total project delivery of this relocation project including scoping, design and funding navigation through the SCDOT Relocation Act.

**Education**  
B.S.B.A., 1997,  
Business  
Administration/  
Marketing

**Office Location**  
Columbia, SC

SURVEY

# Steven Lyle, PLS

Mr. Lyle is experienced at all aspects of land surveying, including conducting preliminary highway surveys, topographic and boundary surveys, and ensuring all professional, technical, and MDOT standards are maintained. He is well-rounded and has served in many surveying positions over his career, such as survey crew member, instrument man, survey crew chief, inspector, survey/CADD manager, construction project manager, senior district surveyor, and state surveyor. Mr. Lyle is proficient with many instruments, including Leica System - SR 530 RTK - GPS Receiver, Leica TCA 1103 - Motorized w/Auto-Tracking Total Station, Leica Viva GNSS Receiver, Levels, and Trimble R8 Dual Frequency GPS Receiver.



Years Experience **48**

**RELEVANT EXPERIENCE**

**Pump Station and Force Main Design, Pickens, Mississippi.** *Burrows Paper Corporation.* **SURVEY MANAGER.** Responsible for supervision and management of survey operations to assure a timely accurate product. Michael Baker prepared technical plans and specifications for the construction of a pump station and 3,000-foot-long, 10-inch force main equipped with a diffuser outlet system to carry the effluent discharges from a paper manufacturing plant to the Big Black River to meet the requirements of a National Pollutant Discharge Elimination System permit. Michael Baker also did shop drawing reviews and occasional site inspections during construction.

**West Bank Mississippi River Levee and Highway**

**11 Surveys, Plaquemines Parish, Louisiana.** *U.S. Army Corps of Engineers, New Orleans District.* **PROJECT MANAGER.** Responsible for supervision and management of survey operations to assure a timely accurate product. Michael Baker provided surveying and mapping services for the enlargement of the Mississippi River main line levee from Empire Station to Buras Station. Michael Baker's services included independent technical review of a draft geotechnical soils report; review of available land survey information, aerial photogrammetric maps, right-of-way maps, and hydrographic survey information; development and implementation of a surveying plan; aerial mapping of soil boring and cone penetration testing sites; comprehensive planimetric and topographic surveying and mapping; and development of a digital terrain model.

**Licenses/Certifications**  
NASSCO Manhole,  
Pipeline, & Lateral  
Assessment  
Certification +  
multiple SCDOT CE&I  
certifications





TAB 3

## EXPERIENCE OF THE FIRM

Armed with sound program leadership, seasoned utility infrastructure experts, and a proven project management framework, Michael Baker has a solid track record of successfully planning, managing, and executing projects, especially under multi-task on-call agreements.

## 2022 ENR RANKINGS

# THE TOP 500 DESIGN FIRMS

|    |                         |
|----|-------------------------|
| 28 | Top 500 Design Firms    |
| 17 | Top Pure Designers      |
| 5  | Bridges                 |
| 6  | Dams and Reservoirs     |
| 12 | Water Supply            |
| 13 | Transportation          |
| 15 | Construction Management |
| 16 | Highways                |
| 17 | Airports                |
| 24 | Mass Transit and Rail   |

Michael Baker provides comprehensive technical expertise to address design complexities and innovative solutions on utility projects for urban and suburban environments. We offer the Municipal Association of South Carolina's constituent municipalities a professional team with deep experience in relevant design and construction standards, policies and procedures, along with an understanding of South Carolina regulatory agency requirements.

*Ranked regionally by ENR as #2 in Water Supply Designers, our firm is a leader in the field of water resources engineering with extensive experience developing practical and cost-effective solutions to water infrastructure design challenges through technical excellence.* Michael Baker's Water Practice provides innovative consulting, planning, and engineering solutions for the entire spectrum of the water cycle. Our experts have proven experience in providing a full range of professional services from scientific and technical analysis, concept through design, regulatory permitting, and construction support services. We assist public and private agencies with all aspects of water management from general water resources to water infrastructure, to flood management, to water quality, to ecosystem restoration. The proposed staff for this project has extensive experience assisting municipalities pace capital utility improvements with population growth.

Our extensive experience in county and municipal projects demonstrates our commitment to providing a quality service, personal client relations, and leadership through innovative and cost-effective solutions. It is through attention to detail and an emphasis on client services that Michael Baker has been able to sustain working relationships with numerous clients throughout the state.

## SIMILAR PROJECT EXPERIENCE



### Red Bank Road Gravity Sewer Upgrades

*Goose Creek, South Carolina*

**Completed:** Ongoing Est. 2023

**Value:** \$545,000 (fee)

After multiple sanitary sewer overflow (SSO) events Berkeley County determined that the existing 30" and 36" Ø gravity sewer located within the eastbound curb lane of Red Bank Road had reached the end of its useful life. Michael Baker evaluated three options to replace the existing gravity sewer at its junction with an existing 30" Ø force main: open cut installation of new pipe in the middle of the roadway; micro-tunneling new pipe; and finally pipe bursting the existing sewer line. The decision was made to extend the 30" force main 630' via open cut and pipe burst approximately 4,500' of lined 36" RCP with 42" OD HDPE. This allowed for minimal excavation in the SCDOT roadway, increased installation production rates, and alleviated subsidence issues. It is the largest known sewer pipe bursting operation in South Carolina that will be performed within and parallel to an existing State Road. Design challenges included a 5,100', 30" bypass line across numerous driveways and four side streets, allowances for string out, fusing, and pre-installation testing of up to 560' of HDPE pipe at a time before bursting, and complex traffic control layout.

#### CLIENT CONTACT

Berkeley County Water and Sanitation  
David Parker  
843-761-8817  
david.parker@berkeleycountysc.gov

#### PROJECT FEATURES

- State Revolving Fund project
- Replace existing infrastructure and reduce SSOs
- Mitigate existing subsidence issues
- Construction services



## New Heritage Phase II Gravity Sewer

*Fort Mill, South Carolina*

**Completed:** 2022

**Value:** \$542,713 (fee)

Michael Baker conducted a study of the New Heritage Drainage Basin in Fort Mill for the evaluation of a large diameter gravity interceptor line to eliminate the need for multiple pump stations within the dense residential drainage basin. The study provided a viable gravity alternative to eliminate up to five pump stations with a phased construction approach. The contract evolved to include the design, permitting, and construction services of the first phase of the interceptor. This phase includes approximately 8,250 linear feet of 18-inch and 24-inch gravity sewers to eliminate one large existing pump station nearing the end of its effective life and to increase capacity in a portion of the line prone to sanitary sewer overflows. Michael Baker is providing a turnkey project to York County to include survey, easement acquisition, environmental permitting, sewer design and permitting, procurement assistance, and construction services to bring this project from concept to reality.

### CLIENT CONTACT

York County  
Barry McKinnon  
803-818-5781  
barry.mckinnon@yorkcountygov.com

### PROJECT FEATURES

- Study
- Design Services
- Permitting
- Construction services



## Gills Creek Sewer Rehabilitation

*Columbia, South Carolina*

**Completed:** 2022 (Construction 2025)

**Value:** \$592,330 (fee)

Michael Baker is designing approximately 6,500LF of new 36-inch and 48-inch gravity sewers to provide an additional 10 MGD of capacity relief for this portion of the City's gravity outfall system. The project includes micro tunneling, large diameter jack and boring, gravity installations at depths greater than 30 feet, two rail crossings, five roadway crossings, including interstate 77 and an overflow diversion structure. Of special circumstances to this project, approximately 25 percent of the existing gravity alignment exists within the limits of a former EPA controlled superfund site.

### CLIENT CONTACT

City of Columbia  
John Riggs  
803-545-4322  
john.riggs@columbiasc.net

### PROJECT FEATURES

- Capacity relief design
- Environmental remediation
- Trunk sewer
- Construction services



## Upper Crane Creek Sewer Capacity Improvements

*Columbia, South Carolina*

**Completed:** 2021

**Value:** \$450,505 (fee)

Michael Baker is designing approximately 13,500 LF of 24-inch and 30-inch gravity sewer replacement for capacity improvements as part of the Columbia's CleanWater2020 program. The project consists of performing basin build out analysis and implementing improvements within the upper most reaches of the Crane Creek sewer basin then designing and constructing necessary sewer capacity improvements to promote continued growth in the area.

### CLIENT CONTACT

City of Columbia  
John Riggs  
803-545-4322  
john.riggs@columbiasc.net

### PROJECT FEATURES

- Design services
- Capacity improvements



## Miscellaneous Lift Station Improvements

*Columbia, South Carolina*

**Completed:** Est. 2023

**Value:** \$447,728 (fee)

Michael Baker is providing engineering services for the rehabilitation of twelve existing pump stations within the city of Columbia system. Tasks for this Clean Water 2020 project include consultation, design, permitting, bidding, construction administration, and inspection services. Pump station renovations include the evaluation and recommendation of gravity and pressure piping modifications for operational improvement, backup power supply, bypass pumping connections, wet well rehabilitation, structural improvements to valving enclosures, and electrical revisions to older stations to bring the stations within current code.

### CLIENT CONTACT

City of Columbia  
 John Riggs  
 803-545-4322  
 john.riggs@columbiasc.net

### PROJECT FEATURES

- Pump station rehabilitation
- Design services
- Permitting
- Bidding
- Construction Administration
- Inspections

### CLIENT CONTACT

Berkeley County Water & Sanitation  
 David Parker  
 843-761-8817  
 david.parker@berkeleycountysc.gov

## Murray Drive Force Main Improvements

*Berkeley County, South Carolina*

**Completed:** 2022

**Value:** \$25,451 (fee)

This Berkeley County capital project features 40 LF of failing force main in an intersection converted to gravity sewer. Michael Baker provided design, permitting, traffic control and construction administration in support of 50 LF of new 8" gravity within the intersection. Our design included an extensive detour plan for the intersection with ADT of 11,800.

### PROJECT FEATURES

- Force main improvements
- Design services
- Permitting
- Construction Administration

### CLIENT CONTACT

Columbia Water  
 John Hilbert  
 803-545-3283  
 john.hilbert@columbiasc.gov

## Alpine Road Traffic Circle Utility Relocations

*Columbia, South Carolina*

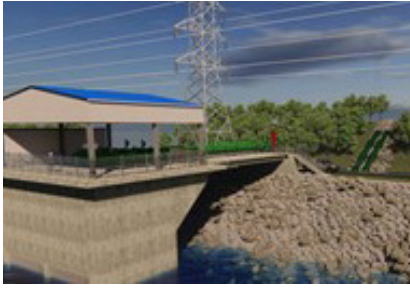
**Completed:** 2021

**Value:** \$89,571 (fee)

SCDOT's installation of a traffic circle precipitated the need for 400 Linear Feet of 6" & 8" waterline relocation associated with new roundabout. Michael Baker provided design, permitting, traffic control, and construction administration in support of this project. Of note is the use of InsertaValves to isolate the intersection due to old, failed valves.

### PROJECT FEATURES

- Design services
- Permitting
- Traffic control
- Construction Administration



## Columbia Resilient Water Supply Project

*Columbia, South Carolina*

**Completed:** Ongoing Est. 2025

**Value:** \$2,190,500 (fee)

The City of Columbia is proposing a water resiliency infrastructure project to develop a new raw water intake facility within the limits of the Congaree River to service the Columbia Canal Water Treatment Plant (WTP). The Columbia Canal (WTP) serves as the primary water supply to approximately 233,000 residents in the City of Columbia, Fort Jackson, McEntire and the Town of Blythewood. The Columbia Canal WTP serves five major hospitals, sixteen police stations, thirty fire stations, six universities, numerous government facilities (including County, State and Federal), and two military bases.

The existing source water for the Columbia Canal WTP is provided by the Columbia Canal which is an approximately 3- mile-long earthen embankment canal fed by the Broad River. During flooding caused by Hurricane Joaquin, the Columbia Canal overtopped causing a breach in the embankment. This breach in the canal embankment prevented the canal from retaining water and jeopardized the water supply to the Columbia Canal WTP.

The proposed facility will increase the resiliency of Columbia's drinking water facilities against future flooding events by locating the new intake outside the limits of the canal and eliminating the potential for future canal breaches to cut off the raw water supply to Columbia Water's primary Water Treatment Plant.

### CLIENT CONTACT

City of Columbia  
John Riggs  
803-545-4322  
john.riggs@columbiasc.net

### PROJECT FEATURES

- Raw Water Intake Pumping
- Transmission Piping
- Water Treatment Structure
- FEMA Funding

### CLIENT CONTACT

Columbia Water  
John Hilbert  
803-545-3283  
john.hilbert@columbiasc.gov

## Patterson Road at Caroline Road Sidewalk Utility Relocations

*Columbia, South Carolina*

**Completed:** 2021

**Value:** \$123,307 (fee)

Michael Baker provided technical consulting support for water main and gravity sewer relocation in association with a sidewalk improvement project. Tasks included utility coordination, evaluation of alternative alignments, engineering, design, and construction phase services. The project included portions of approximately 2,600 LF of 16-inch water main along Patterson Road and portions of approximately 1,200 LF of 8-inch water main along Caroline Road. Approximately 450 LF of 8-inch gravity sewer was relocated. Design and permitting were closely coordinated through SCDOT utility coordination program to account for multiple utilities within the corridor.

### PROJECT FEATURES

- Water main
- Gravity sewer relocation
- Design services
- Permitting
- Traffic control
- Construction Administration





## South Main Street Streetscape Utility Relocations

Columbia, South Carolina

Completed: 2022

Value: \$415,150 (fee)

This SCDOT streetscape project included road diet, new drainage, hardscaping design, traffic control, permitting, and construction administration of 1,900 LF of new 12-inch water line within the limits of South Main Street from Pendleton Street to Green Street. The scope also featured nearly 30 commercial and fire service connections within the downtown district of Columbia. The Michael Baker team performed a Sanitary Sewer Evaluation Survey (SSES) on the existing sewer facilities and provided designs for rehabilitating all facilities within the corridor limits of the streetscape project around active steam tunnels.

### CLIENT CONTACT

Columbia Water  
John Hilbert  
803-545-3283  
john.hilbert@columbiasc.gov

### PROJECT FEATURES

- Road Diet
- Drainage Design
- Hardscaping Design
- Traffic control
- Permitting
- Construction Administration



## McDaniel Avenue Emergency Sewer Replacement

Greenville, South Carolina

Completed: Est. 2022

Value: \$47,250 (fee)

Michael Baker was procured by the City of Greenville to assist with the sewer replacement associated with the SCDOT emergency repair to the McDaniel Avenue Bridge over the Reedy River. In late 2021 the Michael Baker Bridge Inspection team discovered structural deterioration to the McDaniel Avenue Bridge over the Reedy River. SCDOT issued emergency protocols to place load limits on the bridge until emergency repairs could be contracted. The City of Greenville owns an existing 12" gravity sewer line mounted to the existing bridge, scheduled for upsizing to facilitate necessary flow improvements within the sewer basin. Michael Baker surveyed, designed and issued construction plans in early April 2022 for the project. Construction is currently underway.

### CLIENT CONTACT

City of Greenville  
Lucas Bryson, PE  
864-467-8892  
lbryson@greenvilleesc.gov

### PROJECT FEATURES

- Design services
- Permitting
- Construction Administration

## THE TASK ORDER CONTRACT SPECIALISTS

Recognized as task order based contract specialists, Michael Baker has in-depth knowledge and extreme familiarity with the requirements of on-call contracts. Our team provides the depth of knowledge and resources necessary to take on multiple simultaneous assignments or individual large-scale assignments to meet deadlines and quality level required by the client. By pairing qualified people with direct experience on the types of projects we are assigned, we can very efficiently serve the utility owners we work for. A large percentage of our local contracts are task based and we are both routinely re-selected for the same contracts because our clients know that they can count on us to help them with all their needs.

### ON-CALL LOCAL EXPERIENCE



- Berkeley County (20+ years)
- Charleston County (22+ years)
- Kershaw County (20+ years)
- Lexington County (17+ years)
- Richland County (15+ years)
- City of Columbia (12+ years)
- Dorchester County (8+ years)
- MetroConnects (2 Years)
- York County (5+ Years)



TAB 4

## **FAMILIARITY WITH FEDERAL FUNDING REQUIREMENTS**

**In the past 10 years, Michael Baker has prepared over 170 grants totaling more than \$500 million. MASC's constituent municipalities will benefit from our team's technical experience in interpreting federal regulations and successful receipt of expedient funding from federal grants.**

The Michael Baker team specializes in grant writing services. Most of our projects involve federal funding or action; therefore, we routinely complete grant documents to comply with the funding and any cooperating agency. Our professionals are experts in the decision-making process and closely monitor federal legislation and competitive infrastructure funding opportunities for local governments. We have completed numerous grant documents within client-specified budgets that are on schedule by using a streamlined approach and engaging the agencies with jurisdiction over the project from inception to project completion.

Michael Baker has provided public finance and grant writing services to help agencies, private companies, and nonprofit organizations with their financial and fiscal-related needs and to secure the funds to keep projects moving forward. We are a resource for information and can guide clients through an issue or clarify assumptions. Because projects often require more than one grant, our experts continuously monitor federal, state, and private funding opportunities to identify all possible funding opportunities and create a complete grant financing strategy.

Over the past 10 years, Michael Baker has prepared over 170 grants totaling more than \$500 million. These include efforts on behalf of state departments of transportation, the Federal Emergency Management Act (FEMA) and many local agencies. Locally our staff has successfully completed Community Block Development Grant (CBDG), Rural Infrastructure Authority (RIA) and State Revolving Fund (SRF) projects in recent years and maintains a stellar working relationship with staff at each of the respective organizations.

At the state level, we understand that many municipalities across the state are currently targeting South Carolina Infrastructure Investment Program (SCIIP) funding for capital projects. The most pressing factor currently identified with this funding source is the current expenditure deadline of 12/31/2026 associated with SCIIP (American Rescue Plan Act) funds. As capital projects can be lengthy projects, municipalities have a great need for consultants that can develop a strategic approach to successfully completing projects ahead of the federal expenditure deadline. The successful consulting team for these projects will need to tackle this potential issue head on from project inception.

Outside of SCIIP funding currently known, municipalities can also benefit from continued consultation into funding strategies for capital projects. The Michael Baker team is a valuable advisor to municipal clients in this regard. We have recent and applicable success for our clients in obtaining hazard mitigation grants (FEMA, Building Resilient Infrastructure Communities) that no other South Carolina firm can demonstrate. We have over 300 in-region staff currently contracted directly to FEMA as extension of staff. Our firm is actively involved with the South Carolina Office of Resiliency for mitigation grants for our clients, and we are currently working on a number of active South Carolina Department of Health and Environmental Control SRF projects at this time. The Michael Baker team excels in this capacity for our clients. We have the experience, the depth of resources, and the relationships in place to successfully perform these services for municipalities across the state.

## RECENTLY AWARDED GRANTS

| Project                              | Client   | Grant Type  |
|--------------------------------------|--|---|
| Columbia Canal Repairs               | City of Columbia   | FEMA Disaster Recovery Funds  |
| Columbia Resilient Water Supply      | City of Columbia   | FEMA Building Resilient Infrastructure and Communities (BRIC)         |
| FRITS                                | Florida Department of Transportation (FDOT)  | Florida Transit Authority (FTA) Bus and Bus Facilities                |
| Frankfort Second Street Corridor     | City of Frankfort, KY  | Transportation Investment Generating Economic Recovery (TIGER)        |
| Race Street Facility Project         | Eastern Panhandle Transit Authority  | Discretionary 5339(b) Buses and Bus Facilities Infrastructure Program |
| Broad Street Bus Rapid Transit (BRT) | Virginia Department of Transportation (VDOT)/<br>Department of Rail & Public Transportation (DRPT) | TIGER   |



## RECENTLY AWARDED GRANTS (continued)

| Project  | Client  | Grant Type  |
|--|---|---|
| South Midland Reconstruction & Rural Broadband Project                 | Glenwood Springs, CO                                | Better Utilizing Investments to Leverage Development (BUILD)              |
| District 1/St. Louis County Bridge Bundling Project                    | Minnesota Department of Transportation              | Competitive Highway Bridge Programs                                       |
| Keystone Corridor ZOO Interlocking State of Good Repair Improvements   | Pennsylvania Department of Transportation (PennDOT) | Federal-State Partnership for State of Good Repair Program                |
| Work Zone Reservation and Traveler Information System                  | PennDOT   | Advanced Transportation and Congestion Management Technologies            |
| 320 Reily Street Mixed-Use Development                                 | GreenWorks Development, LLC                         | Redevelopment Assistance Capital Program (RACP)                           |
| IAC Brownfield Redevelopment   | Carlisle Events                                     | RACP  |
| North Cornwall Development   | Springwood Development                              | RACP  |
| The Villas at Water Run  | WRC Senior Services                                 | RACP  |
| Regional Connections Project   | East Pennsboro Township                             | Green Streets-Green Jobs-Green Towns (G3) Grant Program                   |
| Stormwater Detention Basin Improvement Project                         | Mount Joy Borough                                   | FEMA Flood Mitigation Program   |
| Roosevelt Boulevard Corridor Planning                                  | PennDOT   | TIGER   |
| Jacksonville Transit Authority (JTA)Ultimate Urban Circulator Planning | JTA   | FTA Transit Oriented Development Pilot                                    |
| Gettysburg Connectivity Project  | Borough of Gettysburg, PA                           | Eastern Federal Lands Access Grant  |
| Johnstown Junction Multimodal  | Johnstown Vision Together 2025                      | Rebuilding American Infrastructure with Sustainability and Equity (RAISE) |

**Michael Baker**

**I N T E R N A T I O N A L**

*We Make a Difference*

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