



MASC Municipal Association
of South CarolinaSM

REQUEST FOR QUALIFICATIONS

ENGINEERING SERVICES FOR VARIOUS PROJECTS & ON CALL SERVICES

MUNICIPAL ASSOCIATION OF SOUTH CAROLINA

MONDAY, OCTOBER 17, 2022 | 5PM



COVER LETTER

THOMAS & HUTTON

1501 MAIN STREET, SUITE 760 | POST OFFICE BOX 7608
COLUMBIA, SC 29202 | 803.451.6789
WWW.THOMASANDHUTTON.COM

October 17, 2022

Jake Broom
Chief Operating Officer
Municipal Association of South Carolina
PO Box 12109
Columbia, SC 29211
jbbroom@masc.sc

Re: Request for Qualifications for Professional
Engineering Services for Various Projects
and On-Call Services

Dear Mr. Broom:

Thomas & Hutton has played an integral role in our clients' successes in the Southeast region for 76 years. We rigorously serve municipalities as a single source of accountability for grant administration and can assist the municipalities in South Carolina with engineering services and the use of ARPA monies. We have the local knowledge, technical expertise, and collaborative approach to provide the municipality with any and all water and sewer system improvement projects. Our services include, but are not limited to, preliminary design, final design, permitting, project cost opinions, surveying, bidding and negotiation services, construction administration services, and construction observation services as may be needed by the local governments.

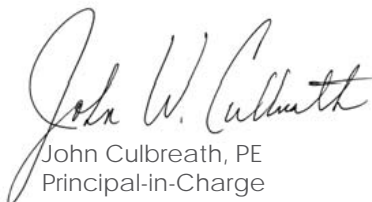
The following factors highlight why our team is best qualified to work with the municipalities:

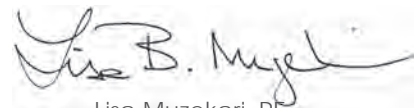
- ✓ ***We have experience with ARPA funded projects.*** Thomas & Hutton is currently working on 11 ARPA funded projects. Additionally, we have a dedicated Grant Administrator on staff, Dale Culbreth. Dale has over 30 years of experience with state and federal grant programs, including Economic Development Administration funding and State Revolving Funds. Her experience consists of grant project management, project budgeting, and adherence to federal, state, and/or private grant guidelines. If selected for this contract, she will oversee the municipalities' compliance with ARPA and other grant requirements.
- ✓ ***We support clients' visions for success with quality services and project support through our diverse and talented staff and vast experience in South Carolina.*** With 76 years of experience working with municipalities, our team will deliver these projects for the Owner on budget and on time. In addition, we have long-standing relationships with various agencies in the region due to the volume of projects completed over the years, providing us many opportunities to interact and build partnerships that are the cornerstone of our business.
- ✓ ***The leading factor of our success is communication.*** We strive to be viewed as an extension of the Owner's staff. We communicate frequently with our clients and regulatory agencies. With multiple offices located throughout the state, our staff is easily accessible for impromptu meetings on-site. Our willingness and desire to understand our clients' needs allows us to proactively resolve potential problems before they become critical issues.

We are committed to being accessible and will prioritize open and ongoing communication with the municipalities. This contract will be handled from our Columbia office, located at 1501 Main St., Suite 760, Columbia, SC 29201. Principal-in-Charge, Regional Director, John Culbreth, PE; and Project Manager, Environmental Department Manager, Lisa Muzekari, PE are available to answer any questions or comments you may have. Feel free to contact John at (803) 451-6780 or culbreth.j@tandh.com, or Lisa can be contacted at (803) 451-6781 or muzekari.l@tandh.com.

Very truly yours,

THOMAS & HUTTON


John Culbreth, PE
Principal-in-Charge


Lisa Muzekari, PE
Client Liasion/Project Manager



FIRM QUALIFICATIONS

Established in **1946**, Former US Army Corps of Officers, Hue Thomas and Joe Hutton, joined forces and opened an engineering firm in Savannah, GA. Today, Thomas & Hutton stands as one of the most well respected and established consulting and engineering firms in the Southeast with over 400 employees throughout nine regions in South Carolina, North Carolina, Georgia, and Tennessee.



With over 75 years of **EXPERIENCE**, Thomas & Hutton has the technology and associated technical resources available to provide innovative solutions to complex engineering and design challenges for small and large towns and cities. Powered by passion, our talented people design infrastructure that breathes life into our communities, brings prosperity, and creates jobs, and are catalysts in delivering our promises that cultivate meaningful relationships. By delivering on our promises and holding true to our values, we cultivate meaningful relationships with public and private stakeholders.

Our **RELATIONSHIPS** with local, state, and federal agencies provide us with a clear understanding of codes and regulations, allowing us to swiftly navigate and expedite the process and create successful projects. Our company's ability to establish, maintain, and most importantly – leverage our professional relationships, is what sets our company apart from others and allows our clients to succeed beyond their expectations. Our relationships with our clients, our client's customers, government officials, regulatory agencies, other consultants, landowners, and our communities afford us the ability to add value to the services we provide.

WATER & WASTEWATER



Thomas & Hutton provides a full array of engineering services to public and private clients throughout the Southeast. We provide water and wastewater services from conceptual planning through close-out, start-up, and commissioning. Thomas & Hutton designs water and wastewater infrastructure with the future in mind. Our talented staff are passionate and stand firmly behind designing facilities that ultimately create the essential framework of healthy and thriving communities.

- Surface Water Supply & Treatment
- Groundwater Supply & Treatment
- Industrial Water Supply
- Desalination & Reverse Osmosis Systems
- Water Transmission & Distribution
- SCADA & Control Systems
- Flow Metering, Flow Control & Instrumentation Systems
- Horizontal Directional Drilling (HDD)
- Jack & Bore/Microtunneling
- Hydraulic Modeling, Conceptual Planning, & Route Selection
- Pipeline Assessment & Rehabilitation
- Survey, Easements, Plats, Record Drawings & Construction Staking
- GIS, Cloud-Based GIS Management & Data Collection
- Municipal Wastewater Treatment Systems
- Industrial Wastewater Treatment Systems
- Sanitary Sewer Collection & Conveyance Systems
- Force Mains, Vacuum Sewer & Low-Pressure Manifold Systems
- Pump Station Design & Rehabilitation
- Water Reuse & Reclaimed Water
- Inflow & Infiltration (I&I) Analysis & Rehabilitation
- Sanitary Sewer Overflow Abatement
- Watershed Assessment & Protection Plan
- Odor Control
- Sludge/Biosolids Treatment, Dewatering & Disposal
- NPDES/NS Permitting, Effluent Discharge & Land Application Systems
- Operator Training, O&M Manuals & Commissioning

OUR HISTORY IN NUMBERS



SUBCONSULTANTS

Terracon | Since 1965, Terracon has evolved into a successful multi-discipline firm specializing in geotechnical, environmental, materials, and facilities services. They provide services on thousands of projects each year. Their culture, systems, and structure enable them to excel at both small and large projects. By combining their national resources with specific local area expertise, they consistently overcome obstacles and deliver the results clients expect. **Terracon will provide geotechnical investigations and wetland services.**



F&ME | F&ME Consultants, Inc. (F&ME) is a South Carolina-owned and operated firm offering a comprehensive range of geotechnical, environmental, materials sampling and testing, and construction services. Established in 1980 and headquartered in Columbia, South Carolina, F&ME has offices in Columbia and Beaufort, as well as an operations center in Chester County. For over 40 years, they have built a reputation as a trusted consultant with the technical expertise and resources to implement innovative solutions on a range of projects.



Since inception F&ME has been committed to providing a high level of service for the many challenges clients face in the design and construction of a variety of projects. Their clients have come to appreciate our solution-based approach delivered with principals and associates actively involved in performing and reviewing all stages of project work. F&ME has a successful history providing quality services to a diverse client base that includes counties, municipalities, state agencies, federal agencies, educational institutions, private developers, as well as industry and design-build contractors. F&ME takes pride in working with their clients and providing solutions regardless of the size of the project. **F&ME will provide geotechnical engineering services.**

Howard Engineering | Howard Engineering provides power and distribution system design, power system studies, electrical system solutions, lighting design, SCADA/telemetry system planning and design solutions, control strategies, HVAC and plumbing design. They are certified as a woman-owned business by the Small & Minority Business Contracting & Certification (Certificate #03201618). professionally licensed in South Carolina, North Carolina and Georgia. **Howard Engineering will provide electrical engineering services.**



OLH Inc. | OLH Inc. is an Atlanta-based project management firm founded in 1993 to offer comprehensive and specialized Project, Program and Construction Management services. They are a woman owned firm, recognized for our ability to consistently deliver quality service on projects that are completed on schedule and within budget. Located strategically throughout the Southeast in Atlanta, Georgia; Augusta, Georgia; Columbia, South Carolina; and Huntsville, Alabama.



Their primary goal is to ensure the success of a project by minimizing risk throughout the lifetime of the project. They achieve this by focusing on helping clients track and measure program performance, maintain control of cost and schedule, and accurately predict the outcomes of projects and overall program as well as communicating status to project participants in a timely and effective manner. **OLH will provide construction administration services.**

Lowcountry Locating, LLC | Lowcountry Locating is a premier underground utility locating company based in Hanahan, South Carolina providing all levels of SUE. They utilize the latest in locating technology including electromagnetic locating and ground penetrating radar equipment to provide accurate, precise, and efficient locating services for underground utilities in the public and private sectors. For the last 16 years, Lowcountry Locating has prided themselves in performing safe and reliable utility locating services for damage prevention and design purposes to their clients in South Carolina, North Carolina, and Georgia. **Lowcountry Locating, LLC will provide subsurface utility engineering services.**





TECHNICAL APPROACH/UNDERSTANDING

1.

TECHNICAL APPROACH/UNDERSTANDING

EXECUTIVE SUMMARY AND PROJECT UNDERSTANDING

Thomas & Hutton has a vested interest in the success and growth of South Carolina. Our experience in the state has provided us with a wealth of knowledge in being able to deal with civil engineering issues and this knowledge will assist the team in solving issues in a more efficient and cost-effective manner. Our team is uniquely qualified and capable of providing all the professional engineering/design and consulting services for water, sewer, surveying, general civil engineering services, site development, construction administration/engineering/inspections, storm drainage infrastructure, stormwater planning, utility development, landscape architecture and transportation planning/design projects. Our exceptionally qualified team brings volumes of local experience on all types of development projects and top-notch construction services. This team is large enough to handle high volumes of work and can ensure each portion of the project receives quality, experienced review, and input.

PROJECT UNDERSTANDING

The Municipal Association of South Carolina (the Association) is seeking qualifications to provide engineering services for various local governments in South Carolina for the use of American Rescue Plan funds. These funds will be primarily used for various water and sewer system projects. The desired services will include preliminary design, final design, permitting, project cost opinions, surveying, bidding and negotiation services, construction administration services and construction observation services as may be needed by local governments. Our overall management approach, broad experience with these types of projects, level of service, and office locations throughout the state set Thomas & Hutton apart from the competition. We have a long history of working with counties and municipalities utilizing on-call contracts. Our multiple offices, breadth of resources, and experience position us to be able to respond quickly to our clients' needs. In business for over 75 years, we count among our clients the many public sector entities throughout our regions.

PROPOSED METHODOLOGY AND APPROACH

Thomas & Hutton will be the primary contracting entity with project tasks served primarily out of our Columbia office. To provide the level of service our clients have come to expect, it is important to serve clients from our office with the closest proximity. As each new task order is issued, our Project Manager will work with local governments to properly staff the project team. We will work to develop a scope and fee for the project that is acceptable to all parties. Once a detailed scope is determined, we will hold a project kickoff meeting with government personnel to fully discuss the project, possible challenges, and potential stakeholders. Some projects require more technical staff, while others may require more design staff or increased involvement from other team members.



The Project Manager will identify these team members, conduct an internal kick-off meeting with the team to clearly communicate roles and responsibilities, and then communicate to the Association or the Municipal client (Owner) so that the client knows who is working on their project. At the beginning of each project, the Project Manager will also develop a project schedule with the Owner. Milestones will be discussed, determined, and agreed upon. A project schedule will be published at the commencement of work. The

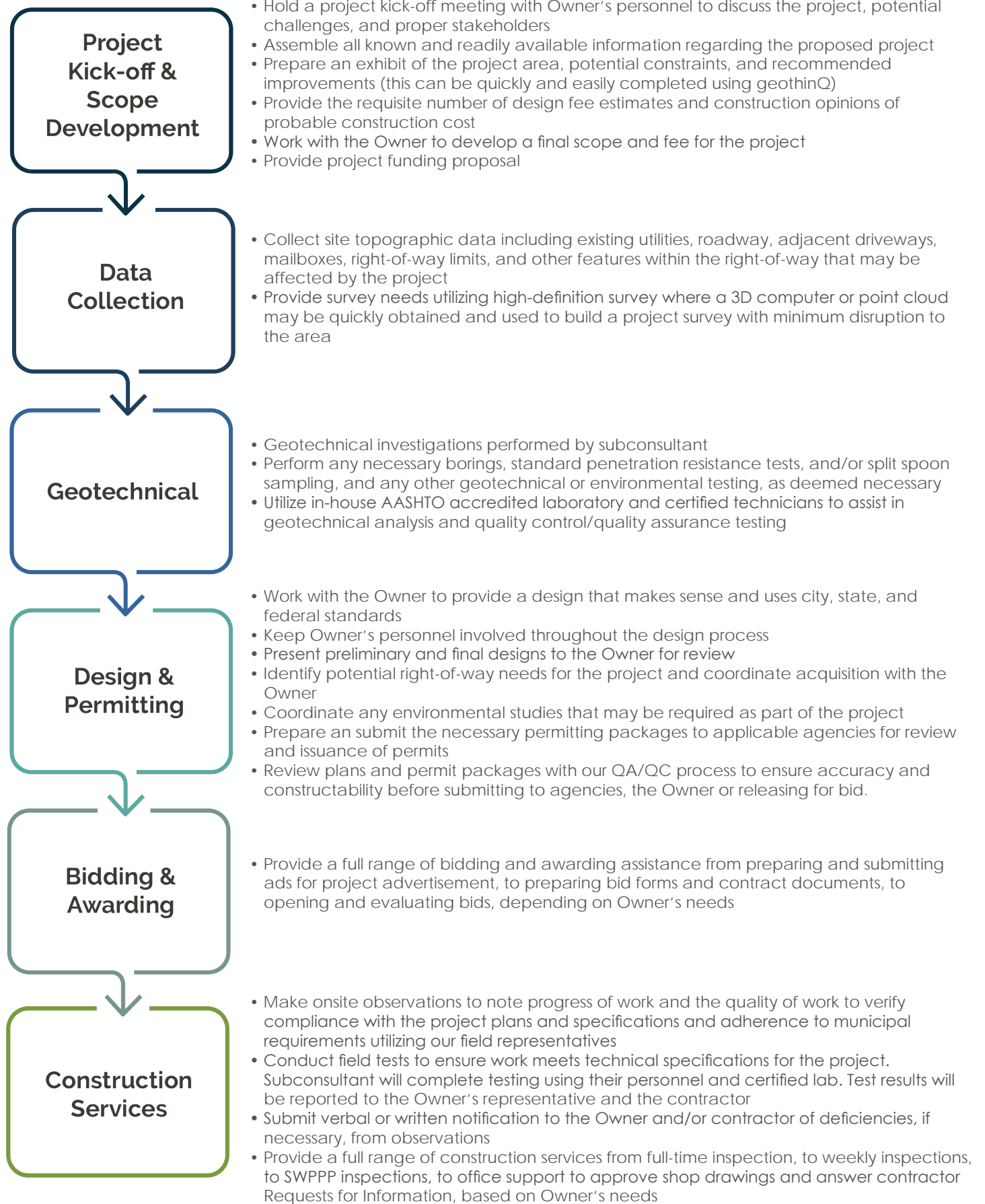
Project Manager will communicate the schedule both internally and with the Owner to keep the team updated on project progress.

GENERAL PROJECT APPROACH

Thomas & Hutton will apply our knowledge and experience to produce successful projects as new tasks are assigned through this contract. We have provided a general project approach for a typical project that consists of the following project phases:

1. Project Kickoff and Scope Development
2. Data Collection
3. Geotechnical
4. Design and Permitting
5. Bidding and Awarding
6. Construction Phase Services

PROJECT APPROACH



KICK-OFF MEETINGS

Thomas & Hutton will hold a kick-off meeting with the Owner to discuss the goals, project schedule, administrative procedures, respective responsibilities, lines of communication, progress reporting, data collection, and additional project matters as appropriate. A written work plan will be prepared by our Project Manager and his team subsequent to this meeting. The work plan will include any revisions of the scope as a result of this meeting, an updated schedule, if necessary, as well as contact information for the project team, including subconsultants, and an organization chart. **We will tailor the work plan to meet the goals and schedule outlined by the Owner.**

PROJECT WORKSHOPS

We propose project workshops with the Owner's staff throughout the course of the project at the 30%, 60%, and 100% design stages. These workshops will allow us to share and discuss any issues that have arose during that stage of the design and solicit feedback from the Owner's staff on their preferred solution. These workshops will also allow us to provide updates relative to the project budget and schedule. **We pride ourselves on keeping our clients well-informed of project schedules and budgets so that any issues can be identified and addressed in a timely process.**

INNOVATIVE CONCEPTS AND QUALITY CONTROL

Quality Assurance/Quality Control (QA/QC) is the responsibility of every team member working on a project. It is each member's responsibility to ensure that his/her work is the best that it can be. This attitude is started and developed by the leadership of the project manager and lead engineer. Client satisfaction can only be achieved by providing a high-quality product. All the forgoing procedures are culminated by our assigned QA/QC senior team members reviewing plans prior to distribution and construction.

Thomas & Hutton implements an extensive QA/QC program with procedures and processes that must be followed by all employees. Once the project begins, regular team meetings will be held to ensure effective communication throughout the project. Our procedures facilitate a review of the work that includes the project manager, a construction manager, and an independent in-house project manager with applicable expertise, but not involved in the day-to-day execution of the work product. This fresh look at the project not only assures a reduction in design errors, but also allows us to assess the constructability of the proposed design, how the proposed system will operate once in place, and the cost-effectiveness of the project design. Value engineering is critical and provides innovative cost saving practices that benefit the client, the project, and the community.

We utilize our proprietary "Bloodhound" software to allow designers and project managers to request reviews for plans, specifications, design, and other work products across all our offices. Experienced professional staff can check-out plans for review and return comments to the designer/project manager through the same Bloodhound software. Bloodhound also allows us to quickly identify others within the company who have specialized expertise enabling design teams to leverage Thomas & Hutton's broad and diverse knowledge base. This process strengthens the technical knowledge and project understanding for both designer and reviewer. **This fresh look at the project not only assures a reduction in design errors, but also allows us to dig deep into the constructability of the proposed design, how the proposed system will operate once in place, and the cost-effectiveness of the project design.**

HOW OUR QUALITY CONTROL WORKS

Quality control or assurance to provide a high caliber of professional service revolves around good project management which involves four key areas. Thomas & Hutton applies these key issues to every area of the project from predesign through post occupancy.

- **Budget Control:** We clarify the real-world costs from expectations. Misconceptions due to lack of communication can lead actual costs to exceed anticipated expenditures. We strive to provide budgetary costs early in the planning process, communicate about items which effect the budget, and update the opinion of cost throughout the process.
- **Scheduling:** As design professionals, we control our schedule and communicate realistic durations for elements of the project outside our control. Schedules are established at the project start and the progress is tracked monthly.
- **Coordination:** Regular communication assures little problems do not grow into large problems and that big problems are handled early. An interdisciplinary coordination process is followed. The multi-discipline construction documents are specifically reviewed to address points of interface enabling the reviewer to locate coordination discrepancies between disciplines. The project manager and a representative from each discipline reviews the construction documents based upon the sequence of construction. This approach has proven itself to be effective at cleansing contract documents of interdisciplinary coordination errors, thereby, reducing the largest single source of change orders, time extension, and exposure to liability claims.
- **Records Management:** Written communication help each person understand the project better and provide reminders for tasks to be accomplished.

FINAL DESIGN PROCESS

Design Drawings and Specifications

Based upon comments received during the 65-percent plan review meeting and at the workshop, engineer shall prepare contract documents to include final drawings, technical specifications, bid and contract related forms. Note that:

- Drawings shall include civil/site work requirements including erosion and sediment control, demolition, abandonment, and phasing requirements.
- It is assumed that a single construction contract will be designed, bid, and administered during construction.

The engineer shall walk the route again with the latest version of the final plans and adjust the plans as necessary.

Final Opinion of Probable Construction Cost & Schedule

The engineer shall provide a final opinion of construction cost and a schedule for the construction.

In-House Quality Assurance

Engineer shall provide a quality assurance review of the final design to verify that all revisions from the preliminary design quality assurance review have been addressed. Additionally, the engineer will confirm that regulatory requirements and standard engineering practices are implemented in the design to assure the best possible product is provided.

Technical and Constructability Reviews

At approximately the 90-percent completion stage of the final drawings and specifications, the engineer shall perform a technical and constructability review of the contract documents with the Owner.

Deliverables

- Final Plans
- Contract Documents
- Final Technical Specifications
- Final Opinion of Probable Cost and Construction Schedule
- Workshop

ARPA GRANT FUNDING

Thomas & Hutton will provide Grant Administration services to assist the Owner with identification, writing, and administration of grants for identified needs with the State.

Grant Administration Services can include: grant identification and application preparation, ensuring compliance with all federal requirements, preparation of drawdown requests, quarterly reports, correspondence, labor monitoring and facilitation of the close-out process. All grant funds will be expended during the approved grant period unless an extension is approved by the funding agency.

Based on the major components for Grant Administration Services, Thomas & Hutton estimate the following activities for each grant identified:

- Prepare and submit the general grant set-up package to the appropriate agency (guideline preparation, environmental review, and submittal of other required documents as required by funding source) – These items should generally be completed within 120 days of grant award.
- Provide the Owner with necessary technical assistance to implement and administer all Grant Agreements – These activities will be implemented on an as needed basis throughout the life of the grant.
- Provide reports to the Owner with necessary technical assistance to implement and administer all Grant Agreements – Progress reports will be provided on a quarterly basis during the life of the project.
- Prepare and submit all required reports and cash requests as outlined in Grant Agreements – Program reports and cash payments will be reviewed and processed monthly during the life of the project.
- Prepare and maintain public information binders, as required – Files on the grant will be updated and maintained monthly throughout the life of the grant.
- Prepare and retain all pertinent records and documents sufficient to reflect all charges submitted. Retain such records and documents for a period of five years from the date of final payment.



WORK MANAGEMENT PLAN/EXPERIENCE OF PROPOSED PERSONNEL

ORGANIZATIONAL CHART

SUBCONSULTANTS

Terracon
F&ME Consultants
Howard Engineering
OLH, Inc.
Lowcountry Locating, LLC



Principal-in-Charge
John Culbreath, PE

Project Manager/Client Liasion
Lisa Muzekari, PE

Project Engineers
Patrick Burk, PE
Lee Brackett, PE
Ken Nagel, PE
Jonathan Smith, PE

Project Designer
Michael Lines

Grant Administration
Dale Culbreth

Survey
Elliott Quinn, PLS

Geotechnical
Thomas Smoak, PE
Andy Whitfield, PE

Wetlands
Andy Ruocco, MS, PWS

Electrical Engineering
Amy Howard, PE

Construction Observation
Joseph Cooper

Subsurface Utility Engineering
Matthew West

Management Plan

Our approach to staffing any project is to assign a team that is dedicated to the project through completion. With a staff of more than 400, we have a pool of resources to ensure continuity of services and the ability to meet unexpected project demands such as a owner's request to expedite a schedule. We have proposed a team that is dedicated to the successful completion of these contracts.



JOHN CULBREATH, PE

Principal-in-Charge

John has 22 years of engineering experience with the planning and design of industrial parks, subdivisions, and commercial developments, including roadway infrastructure, water and wastewater distribution infrastructure, water and wastewater treatment facilities, storm drainage, retention, sediment pond design, electrical distribution infrastructure, and communication infrastructure. His primary focus is economic development. He is responsible for the preparation and submittal of construction and operating permit applications to regulatory agencies. Duties also include project management, preparation of specifications, cost estimates, site evaluation engineering reports, environmental site assessments, master plans, and associated studies for all aspects of site engineering. John is also integrally involved in funding mechanisms for his clients on a federal, state, and local level.

Location

Columbia, SC

Education

BS, Civil Engineering, 1999,
University of South Carolina

Professional Registrations

Professional Engineer in SC

Professional Affiliations

- South Carolina Economic Developers Association
- Aiken, Edgefield, Saluda, McCormick Econ. Dev. Partnership
- Laurens County Development Corporation
- Central SC - Committee of 100
- Dorchester County - Committee of 100
- Palmetto Partners

Core Competencies

- Project Management
- Roadway Infrastructure Development
- Roadway Design
- Traffic Studies
- Transportation Design
- Water Distribution Infrastructure Development
- Water Treatment Facility Design
- Wastewater Treatment Facility Design
- Wastewater Distribution Infrastructure Development
- Storm Drainage Design
- Sediment Pond Design
- Site Evaluation
- Environmental Site Assessments
- Master Planning
- Industrial Site Certification
- Railroad Engineering

Project Experience

Environmental Information Document (EID) for US Highway 301 Water System Improvements, Orangeburg County, SC, Project Manager for the preparation of Environmental Information Document (EID) for the construction of water system improvements along US Highway 301. Coordinated with the United States Army Corp of Engineers (USACE) and public meetings associated with the project.*

Berkeley County Water and Sanitation Volvo Water Storage Tank, Berkeley County, SC, Principal-in-Charge for the design, permitting, bidding and construction administration and observation for the implementation of a new 750,000-gallon composite concrete storage tank at Camp Hall Commerce Park in Berkeley County. The tank is being designed and constructed on a truncated timeline of 16 months to meet the target opening date of the manufacturing facility. T&H also assisted the client in the solicitation of grant funds to pay for approximately 88% of the construction of the tank.

Berkeley County Water and Sanitation Volvo Transmission Water Line, Berkeley County, SC, Principal-in-Charge for the design, permitting, bidding, and construction administration and observation for the implementation of a new 20-inch potable water transmission line to serve Camp Hall Commerce Park and Volvo Manufacturing. The line included approximately 48,000 linear feet of 16 and 20-inch line, as well as a 1 MGD booster pump station with expansion capabilities up to 3 MGD. The project also included over 9,000 linear feet of directional drill to minimize wetland impacts.

Berkeley County Water and Sanitation Volvo Pump Station, Force Main, Gravity Sewer Main, Berkeley County, SC, Principal-in-Charge for design, permitting, bidding, and construction administration and observation for the implementation of a new regional sewer system to serve Camp Hall Commerce Park & Volvo Manufacturing. The project included a 0.95 MGD regional pump station, 2,500 linear feet of gravity sewers, as well as approximately 10,000 linear feet of force mains. Thomas & Hutton was successful in the solicitation of an Economic Development Administration grant for this project to pay for 50% of construction costs.

Phase 2 Water & Sewer Improvements to serve the Winding Woods Commerce Park, Dorchester County, SC, Principal-in-Charge for the surveying, design, permitting and construction services for the extension of 8-inch sewer gravity main and 16-inch water main to serve the existing Speculative Building at the Winding Woods Commerce Park.

Fairfield County Wastewater Master Planning and 208 Plan Amendments, Fairfield County, SC, Principal-in-Charge for the Utility Master Planning for Fairfield County. Assisted with the formation of the Fairfield Joint Water and Sewer System including master planning and development of a Preliminary Engineering Report for a new 4.0 MGD MBR WWTP. The planning includes the Amendment of the 208 Plan for the Central Midlands COG to include the new Management Area for the FJWSS and the inclusion of a new WWTP in the plan.

***Work completed with previous firm(s).**



LISA MUZEKARI, PE

Project Manager | Client Liaison

Lisa has 29 years of experience in environmental engineering and has managed a practice group focusing on water, sewer, and environmental permitting and compliance. She is recognized in her field for providing environmental assessments, permitting, planning, and compliance strategies for municipal and private clients. Lisa's experience includes water, wastewater, air, environmental planning, permitting and compliance, industrial and hazardous waste, air modeling, and safety and emergency planning.

Project Experience

Berkeley County Water and Sanitation (BCWS) Program Management, Berkeley County, SC, Program Manager for the BCWS for the Water and Wastewater systems. The overall objective was to assist the County in establishing the program and project priorities with multiple projects in various phases of implementation. Services included monitoring procurement procedures, design, construction, and other related activities; facilitating, coordinating, and managing the Projects identified; and monitoring the quality of services and recommended courses of action.

Berkeley County Water & Sanitation Water and Sewer Improvements for Volvo Cars, Berkeley County, SC, Group Leader for off-site water and sewer improvements for the new Volvo Cars manufacturing site to include sewer lines, pump stations, water lines, elevated storage tank and temporary well.

Upper Kinley Creek Sewer Replacement, Columbia, SC, Client Manager for replacement of sewer piping to upsize 4,400 linear feet of gravity line to a new 30-inch line.

Greenwood Drive and Wexford Water Main Project, South Island Public Service District, Hilton Head Island, SC, Project Manager and Client Liaison for engineering and surveying services for a new water transmission line and RO concentrate line from the proposed new RO Water Treatment Plant to the end of the Sea Pines Plantation on Plantation Drive. The proposed water line will ensure that the residents of Sea Pines will have an adequate water supply that will provide adequate pressure to meet the demands of this community. Thomas & Hutton provided planning, survey, design, landscape mitigation, bidding, and construction administration services for the project. The Greenwood Drive portion of the project consists of 8,675 LF of 16-inch, 12,550 LF of 12-inch, 475 LF of 10-inch, 875 LF of 8-inch, 500 LF of 6-inch water main which includes 4,575 LF of horizontal directional drill; 12,775 LF of 10-inch concentrate main, including 2,350 LF of horizontal directional drill. The Wexford portion of the project consists of 11,600 LF of 16-inch, 900 LF of 12-inch, 35 LF of 10-inch, 145 LF of 8-inch, 10 LF of 6-inch of finished water main, including 4,800 LF of horizontal directional drill; 3,400 LF of 16" raw water main including 3,000 LF of horizontal directional drill; and 12,600 LF of 10-inch concentrate main including 5,100 LF of horizontal directional drill.

Olympia Sanitary Sewer Extension, Columbia, SC, Client Manager for extension of approximately 3200 linear feet of 8-inch sanitary sewer into previously unsewered area in an old mill town area.

Dorchester County Water & Sewer Improvements for Project Gateway, Dorchester County, SC, Group Leader for off-site water and sewer improvements for the new Sundaram Clayton manufacturing site to include sewer lines, water lines, elevated storage tank, and temporary well.

Lexington County Joint Municipal Water and Sewer Commission - On-Call Economic Development Utility Planning Engineering, Lexington County, SC, Provided general consulting services related to utilities planning for potential economic development projects in Lexington County, South Carolina and adjacent counties that could be served by the JMWSC. Performed preliminary engineering planning and related cost estimates. The estimates were utilized by JMWSC for future utility planning related to economic development in the region and within their service area.

Location

Columbia, SC

Education

MS, Civil Engineering, 1992,
University of South Carolina
BS, Civil Engineering, 1991,
University of South Carolina

Professional Registrations

Professional Engineer in SC, NC,
GA, OK

Professional Affiliations

- Water Environment Federation
- American Waterworks Association
- Water Environment Association of South Carolina
- Carolinas Air Pollution Control Association
- Institute for Sustainable Infrastructure

Core Competencies

- Project Management
- Air Permitting
- Air Modeling
- Environmental Compliance
- Environmental Assessments and Remediation
- Environmental Permitting
- Environmental Auditing
- Water and Sewer Master Planning
- Industrial Wastewater Permitting
- Funding Assistance
- Rate Studies
- Sustainability Planning
- Spill Prevention Control and Countermeasures
- Stormwater Pollution Prevention

PATRICK BURK, PE

Project Engineer

Patrick has 31 years of experience in engineering, planning, and design of water and sewer systems, collection and distribution system design, process and pre-treatment design, and construction-related activities. His experience includes planning and design of water distribution/supply and wastewater collection/treatment systems for multiple municipalities, water & sewer authorities, industrial facilities, and local governments.

Project Experience

1 MGD Wastewater Treatment Facility, Effingham County, GA, Project Manager for a new 1 MGD advanced wastewater treatment facility and reclaimed water distribution system for Effingham County. Systems designed and constructed include aeration basins, clarifiers, disk filters, sludge digester and belt filter press, UV disinfection, and various pumping systems. The new collection system consisted of approximately 15,000 linear feet of 8-inch, 18-inch, and 24-inch gravity sewer; 78,000 linear feet of 4-inch, 8-inch, 10-inch, and 12-inch force main; and four sanitary sewer pumping stations. Treated effluent was distributed for urban reuse via approximately 63,000 linear feet of 24-, 20-, 16-, and 12-inch effluent distribution mains.

2 MGD Wastewater Treatment Facility, Port Wentworth, GA, Project Manager for a new 2 MGD advanced wastewater treatment facility and reclaimed water distribution system for the City of Port Wentworth. Systems designed include 3-cell SBR's disk filters, sludge digester and belt filter press, UV disinfection, and effluent super-oxygenation system.

Pump Station 106 Replacement, Berkeley County, SC, Project Engineer for design, permitting, bidding, and construction overview services for a new regional wastewater pump station to replace existing Pump Station 106. The new station is designed to convey approximately 3,280 GPM (4.7 MGD). Additionally, the project includes the extension of approximately 16,000 linear feet of 20-inch force main to discharge at the designated PS 094 receiving manhole. The project includes the abandonment of existing force main, gravity sewer, and the extension of approximately 2,950 linear feet of 15-inch gravity sewer.

LEE BRACKETT, PE

Project Engineer

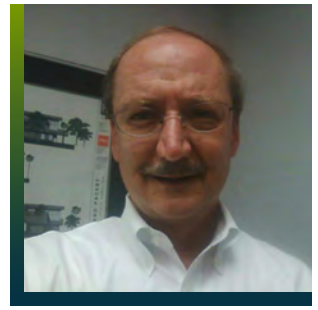
Lee has 12 years of experience in project management, design, construction document preparation, permitting, grants administration, cost estimating, and construction phase services with water and wastewater projects. Typical projects include gravity sewer and force main extensions, water main extensions, sewer pump stations, sewer rehabilitation, water storage tank rehabilitation, and water and wastewater system studies.

Project Experience

Carr Road Pump Station and Force Main, Greenville, SC, Project Manager for design, permitting, bidding, and construction oversight for a pump station and force main project for MetroConnects. Project consists of the construction of a 550-gallons per minute (GPM) duplex submersible pump station and associated site improvements; approximately 7,200 linear feet of 8-inch sanitary sewer force main; approximately 3,900 linear feet of 12-inch sanitary sewer force main; and approximately 175 linear feet of 12-inch sanitary sewer gravity main.

Rhett Street Sewer Improvements Survey & Design, Greenville, SC, Project Manager for design, permitting, railroad permitting coordination, utility planning, bidding, contract administration, and construction oversight for a sanitary sewer project for City of Greenville. Project includes upsizing of approximately 1700 linear feet of existing gravity sewer main from 8-inch to 12-inch along the Rhett Street corridor. The project also includes stormwater basin study and crossing of existing rail with large diameter stormwater culvert via jack and bore.

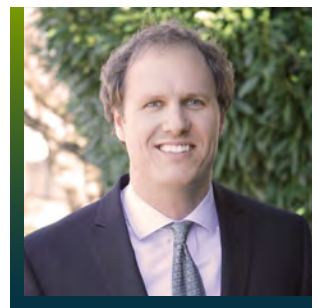
RMF Sanitary Sewer Improvements, Piedmont, SC, Project Manager for Rural Infrastructure Authority (RIA) funding application assistance, design, permitting, bidding assistance, contract administration, and construction oversight for a sanitary sewer extension project to serve an expanding industrial customer. The project includes the extension of approximately 2,500 linear feet of 8-inch gravity sewer to extend sewer through private easements to serve the extents of the MetroConnects service area.



Location
Columbia, SC

Education
BS, Chemistry, 1995,
Armstrong State College

Professional Registrations
Professional Engineer in GA



Location
Greenville, SC

Education
MS, Civil Engineering,
Applied Fluid Mechanics,
2008, Clemson University
BS, Civil Engineering, 2007,
Clemson University

Professional Registrations
Professional Engineer in SC

KEN NAGEL, PE

Project Engineer

Ken has over 30 years of experience in evaluation, planning, and design for water systems projects, including water distribution, wastewater collection and pumping systems, and potable water wells. He has assisted various utilities with the water model development and updates to assess their existing utility systems and, as well as development and updates to capital improvement plans associated with the replacement and/or improvement of the utilities.

Project Experience

Edisto Beach Water Supply Improvements, Edisto Beach, SC, Project Engineer for the development of a hydraulic water model to evaluate various options for improvement of the existing water supply system. The hydraulic model included evaluation of eight improvement options and required complex modeling of the existing and proposed control systems associated with the existing elevated and ground storage tanks, existing supply wells, proposed supply wells, and proposed booster pump systems.

Volvo/Camp Hall Well Water Supply, Storage and Distribution System, Berkeley County, SC, Project Engineer for the design, permitting and construction related services associated with a 750 GPM potable water supply well and associated treatment and distribution systems for the project. Treatment of the water consisted of sodium hypochlorite system. A 10,000-gallon hydropneumatic tank was incorporated to manage the system pressures and well operation. The water supply well, treatment and tank systems were constructed to provide initial water supply to the facility, ahead of extensions of water transmission mains to the project area and the construction of the Volvo elevated water storage tank.

Project Gateway Well Water Supply, Storage and Distribution System, Dorchester County, SC, Project Engineer for the design, permitting and construction related services associated with a 650 GPM potable water supply well and associated treatment and distribution systems for the project. Treatment of the water consisted of a chlorine gas system. A 10,000-gallon hydropneumatic tank was incorporated to manage the system pressures and well operation.



Location
Mount Pleasant, SC

Education
BS, Civil Engineering,
1991, Georgia Institute of
Technology

Professional Registrations
Professional Engineer in SC,
GA, NC, TX
Level II Erosion and
Sedimentation Control
Certified Certified Erosion
and Prevention and
Sediment Control Inspector

JONATHAN SMITH, PE

Project Engineer

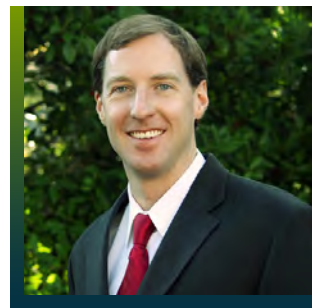
Jonathan has 19 years of experience in project management, design, construction document preparation, permitting, and construction phase services with water, wastewater, and site development projects for public and private clients. Typical projects include water main extensions, gravity sewer and force main extensions, sewer pump stations, sewer rehabilitation, comprehensive land development, water and wastewater system studies, funding application assistance, environmental site assessments and corrective action planning, and stormwater studies and improvements.

Project Experience

Historic Camden Pump Station Relocation, City of Camden, SC, Project Manager for assisting the City of Camden with planning and preliminary engineering documents for the proposed Historic Camden Pump Station Relocation Project. These included construction cost estimates, maps, route and pump station location studies, and other documents required for project funding. Once the project was funded, responsibilities transitioned into detailed design, permitting, and administering the construction contract through completion of the project.

Kirkwood Community Water and Sewer Improvements, City of Camden, SC, Project Manager for assisting the City of Camden with planning and a preliminary engineering report for the proposed water and sewer improvements within the Kirkwood Community of Camden, SC. Once the project was funded jointly by RIA grant and SRF loan, responsibilities transitioned into detailed design, permitting, and administering the construction contract through completion of the project.

Riverdale Community Water and Sewer Improvements, City of Camden, SC, Project Manager for assisting the City of Camden with planning and preliminary engineering report for the proposed water and sewer improvements within the Riverdale Community of Camden, SC. Once the project was funded by a CDBG grant, responsibilities transitioned into detailed design, permitting, and administering the construction contract through completion of the project.



Location
Mount Pleasant, SC

Education
BS, Biosystems Engineering,
2001, Clemson University

Professional Registrations
Professional Engineer in SC

MICHAEL LINES

Project Designer

Michael is a Civil Designer with seven years of experience in wastewater system design, water system design, and general permitting for water and sewer systems.

Project Experience

Aging Main Water and Sewer Rehabilitation, Clinton, SC, Project Designer for sewer evaluation, design, permitting, and construction administration of a downtown utility rehabilitation project. Tasks include replacing approximately 6,000 linear feet of 8- and 12-inch water lines; 2,500 linear feet of 8- and 10-inch gravity sewers; and all necessary service reconnections. Responsible for evaluating different trenchless technologies and utilizing a combination of construction methods to minimize citizen impacts in a sensitive downtown thoroughfare.

The Connexial Center Industrial Park Sewer Improvements, Laurens, SC, Project Designer for design, permitting, and bid to all sewer improvements related to the installation of 2,500 linear feet of 10-inch gravity sewer, 7,000 linear feet of 6-inch force main, and a 210 GPM pump station.

Sanitary Sewer Extension for Mogul, Gray Court, SC, Project Designer for design and permitting of a sewer extension project. The project consisted of design and construction of approximately 16,000 linear feet of 4-inch force main; 2,550 linear feet of 8-inch gravity sewer; and a 110-gpm pump station.

DALE CULBRETH

Grant Administrator

Dale has over 30 years of experience with South Carolina State grant programs, including work with both the community and economic development programs. Serving as a Grant Administrator for state and federal grant and loan programs for infrastructure, including water, wastewater and roads, and community revitalization projects.

Project Experience

The James Island Creek Basin Drainage Master Plan, James Island, SC, Grant Writer for the \$150,000 grant for the Development of the Town of James Island Creek Basin Drainage Master Plan. Communicates with both the South Carolina Office of Resilience - Disaster Recovery Division and the Town to complete the CDBG-MIT Plans and Studies Application within the required parameters of the grant program.

Highway 27 Road Improvements, Dorchester County, SC, Grant Writer and Administrator for the \$8.4 million EDA grant for the widening of Highway 27 to provide the Ridgeville Industrial Campus increased traffic volume capacity. Communicates with EDA, the South Carolina Department of Transportation, and the County on the progress of the project and the financial drawdowns.

Camden County Community Resiliency Center and Radio Tower, Camden County, GA, Grant Writer and Administrator for the \$5.5 million CDBG-MIT grant to rehabilitate an existing building to be used as the Camden County Community Resiliency Center and upgrade of their radio communication system to serve the County during disasters, both natural and man-made.

ELLIOTTE QUINN, PLS

Survey

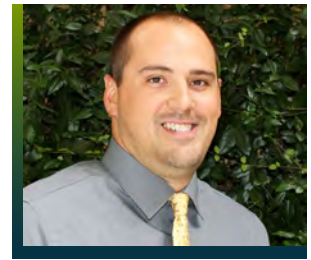
Elliottte has 42 years of surveying experience with many types of engineering and development projects primarily located in South Carolina. This experience includes many water, sewer, gas and electric transmission routes traversing both urban/suburban areas as well as rural undeveloped areas.

Project Experience

Berkeley County Package B Dirt to Pave Roads Projects, Berkeley County, SC, Survey Manager for preliminary surveying services for a Berkeley County half cent sales tax project to convert 4.5 miles of earth roads to paved roads.

Hut Abrams Road, James Island, Charleston County, SC, Project Surveyor for preliminary surveys for design and right-of-way acquisition for a 2.5-mile rural community road improvement project for Charleston County Public Works.

Isle of Palms Water & Sewer System Improvements, Isle of Palms Water & Sewer Commission, Charleston County, SC, Surveyor-in-Charge of surveys for multiple projects on the Isle of Palms over the period of 28 years. Surveys have included route surveys for both water and sewer projects, boundary and topographic surveys of treatment plant and pump station sites, and easement platting.



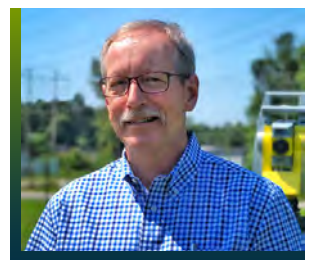
Location
Columbia, SC

Education
BS, Civil Engineering, 2011,
Fairmont State University



Location
Columbia, SC

Education
BA, International Business
and French, 1991, Converse
College



Location
Mount Pleasant, SC

Education
AAS, Civil Engineering
Technology - Survey Option
1980, Midlands Technical
College

Professional Registrations
Professional Land Surveyor
in SC, NC, GA





EXPERIENCE OF THE FIRM

RMF SANITARY EXTENSION PIEDMONT, SOUTH CAROLINA

CLIENT REFERENCE

MetroConnects
Joshua Hawkins
864-277-4442
jhawkins@metroconnects.org

COMPLETION DATE

2021

PROJECT SCOPE

- RIA Funding Application Assistance
- Engineering Design
- Permitting
- Easement Exhibit Preparation
- Bidding Assistance
- Contract Administration
- Construction Oversight



Thomas & Hutton provided Rural Infrastructure Authority (RIA) funding application assistance, design, permitting, easement exhibit preparation, bidding assistance, contract administration, and construction oversight for a sanitary sewer extension project to serve an expanding industrial customer. The project included the extension of approximately 2,500 linear feet of 8-inch gravity sewer to extend sewer through private easements to serve the extents of the MetroConnects service area. Thomas & Hutton coordinated with various state, local, environmental, and private permitting agencies for the backwoods alignment. Thomas & Hutton also coordinated with RIA throughout project development and assisted with successfully applying for Economic Infrastructure grant funds for construction costs.

OLD LAURENS ROAD SANITARY SEWER EXTENSION OF MOGUL SOUTH CAROLINA LAURENS COUNTY, SOUTH CAROLINA

CLIENT REFERENCE

Laurens County Water & Sewer
Commission (LCWSC)
Jeff Field
864-682-6516

COMPLETION DATE

2019

PROJECT SCOPE

- Environmental Due Diligence
- Topographic and Easement Survey
- Plat Preparation
- Sanitary Sewer Design
- Permitting
- EDA Grant Application
- Bidding & Award
- Construction Management
- Construction Closeout



Thomas & Hutton was hired to evaluate, design, and provide bid and construction services for the proposed sewer infrastructure necessary to serve existing and future developments of Mogul South Carolina, ISO Poly Films, and Gray Court-Owings Elementary School. This project included the preparation of construction plans technical specifications for approximately 16,300 linear feet of 4-inch force main, approximately 1,600 linear feet of gravity sewer, and a 120-gpm pump station. The Phase 1 improvements provided services to Mogul South Carolina. Phase 2 improvements included 50 linear feet of 4-inch service lateral and 1,250 linear feet of 8-inch gravity main to serve ISO Poly Films and Gray Court-Owings Elementary School.

Thomas & Hutton provided surveying services and permitting of the submittal packages to the respective local, state, and federal agencies for review.



Request for Qualifications | Engineering Services for Various Projects and On-Call Services
Municipal Association of South Carolina

VENTURE PARK WATER & WASTEWATER SERVICES

COLLETON COUNTY, SOUTH CAROLINA

CLIENT REFERENCE

Colleton County
Kevin Griffin, Administrator
843-549-5221 ext. 1218
kgriffin@colletoncounty.org

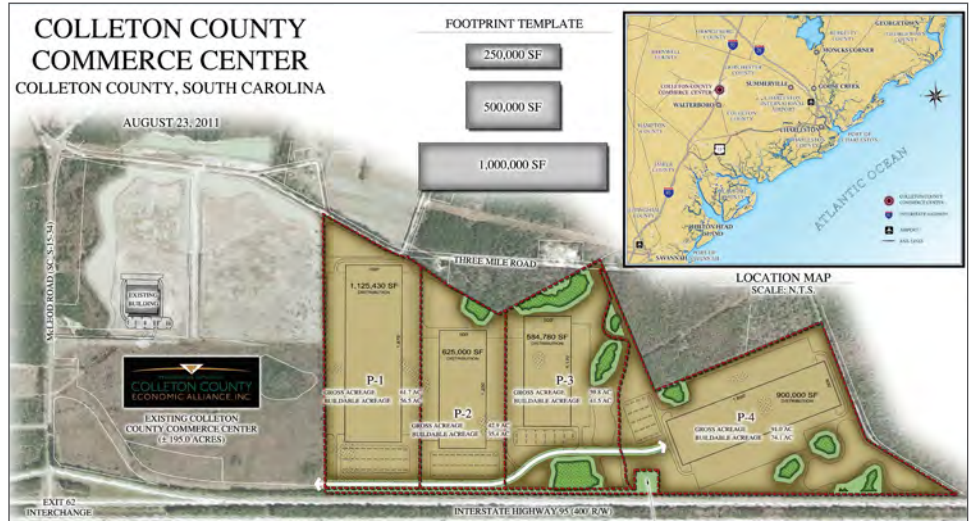
COMPLETION DATE

2021

PROJECT SCOPE

- Engineering Services
- Permitting
- Surveying
- Construction Services

Thomas & Hutton provided survey, engineering, permitting, and construction services for water main and gravity main improvements within the Venture Park located in Colleton County, South Carolina. Services consisted of the surveying, engineering, permitting, and monitoring during the Construction Phase and Closeout Phase.



SEWER SERVICE TO ALPHA GENESIS

EARLY BRANCH, SOUTH CAROLINA

CLIENT

Lowcountry Regional Water Systems
Kari Foy
803-943-1006
kari.foy@lowcountrywater.com

PROJECT COMPLETION DATE

Ongoing

PROJECT SCOPE

- Engineering Design
- Pump Station Design
- Force Main Design
- Permitting

Thomas & Hutton provided design and permitting assistance to LRWS with regards to a proposed force main sewer lift station to serve the Alpha Genesis's Hampton Primate Center facility. The facility currently utilizes a groundwater supply well for potable water needs at the facility, and that wastewater generated from the facility is collected and conveyed to an onsite septic drainage field. Due to the large area required for onsite septic systems, as well as the minimum distance requirements between drain fields and groundwater supply wells, the proposed pump station is necessary. The installation of the proposed pump station allows for the elimination of the existing septic system, which will free up space for future expansion of the facility, further promoting economic development in the area.



In order to design and size the pump station and force main, an understanding of the amount of wastewater that is generated at the facility was necessary. In the absence of unit contributing load information for this type of facility, we obtained information on the monthly groundwater withdrawals and conservatively developed information on the wastewater demand. The proposed duplex-style, grinder-type pump station will convey wastewater from the facility via approximately 12,000 linear feet of force main. The force main will be connected to an existing force main located along Highway 68. This connection will require the jack and bore of a steel casing under an existing rail line.



Request for Qualifications | Engineering Services for Various Projects and On-Call Services
Municipal Association of South Carolina

OLYMPIA SANITARY SEWER IMPROVEMENTS COLUMBIA, SOUTH CAROLINA

CLIENT REFERENCE

City of Columbia
John Riggs, PE
803-545-4428
john.riggs@columbiasc.gov

COMPLETION DATE

2019

PROJECT SCOPE

- Engineering Report & Design
- Permitting
- Bidding
- Construction Administration & Observation

Thomas & Hutton provided design and permitting for the Olympia Sanitary Sewer Extension. The project consisted of an extension of approximately 3,200 linear feet of 8-inch sanitary sewer into a previously unsewered area in an old mill town area. The project is part of the Mentor-Protégé program for the City of Columbia that includes mentoring and assisting in the development of DBEs utilized as sub-consultants on the project.



I-74/I-95 INDUSTRIAL PARK UTILITIES EXTENSION & INFRASTRUCTURE IMPROVEMENTS LUMBERTON, NORTH CAROLINA

CLIENT REFERENCE

City of Lumberton
Rob Armstrong, Public Works Director
910-671-3851
rarmstrong@ci.lumberton.nc.us

COMPLETION DATE

Ongoing

PROJECT SCOPE

- Engineering Design
- Grading
- Pump Station Calculations & Features
- Erosion Control
- Construction Details
- Construction Services
- Permitting

Thomas & Hutton is providing engineering services for the I-74/I-95 Industrial Park utilities extension and infrastructure improvements. The project site is not currently served by sanitary sewer and has limited water service on the eastern side as it is predominantly used for agriculture. The City of Lumberton recently awarded Thomas & Hutton this project to assist in the design to extend and develop utilities and infrastructure to the site.



Thomas & Hutton has been tasked with designing the extension of approximately 3,200 linear feet of 16-inch diameter water main, 4,700 linear feet of 12-inch water main from the City's water system, a pump station and approximately 5,000 linear feet of sewer force main and 4,000 linear feet of gravity sewer. Additionally the project includes the design of a 500,000 gallon elevated water tank and over 4,000 linear feet of roadway including two roundabouts.

Thomas & Hutton also provided assistance with an opinion of cost for a proposed 16-inch water line extension and a proposed force main sewer extension to a proposed Industrial park at I-95 and I-74. Opinion of Cost was used for a Rural Infrastructure Authority Grant.



Request for Qualifications | Engineering Services for Various Projects and On-Call Services
Municipal Association of South Carolina

LARGE DIAMETER WATER MAIN EXPERIENCE

PROJECT	DESCRIPTION OF PROJECT
Volvo/Camp Hall Water & Wastewater Infrastructure, Berkeley County, SC	0.75-mg composite elevated water tank, approximately 50,000 linear feet of 20-inch water main, quadplex (expandable to six pumps) 5,000-gpm capacity, sewage pump station, force main, and temporary potable water system.
South Carolina 170 Widening, Water and Sewer Relocations, Bluffton, SC	Relocation of 30-, 24-, 16-, 12-, and 8-inch water, reuse, and sewer mains along the SC 170 widening corridor.
RiverPort Elevated Water Tank and Water System, Hardeeville, SC	Design of 500,000-gallon elevated storage tank and 18-inch water main system Modeling for the region, including planning for a future 36-inch water main to serve 18 million square feet of office/commercial/industrial development and 10,000 residential units.
20-Inch DIP Water Main along Hospital Drive, Mount Pleasant, SC	2,800 linear feet of 20-inch DIP water main. 1,500 linear feet of 8-inch PVC water main.
Highway 41 Force Main Replacement, Mt. Pleasant, SC	12,000 linear feet of 16-inch force main; 16,000 linear feet of 20-inch water main with directional boring.
RiverPort Industrial Park, Hardeeville, SC	Planning of 36-, 24-, and 18-inch water mains and a 500,000-gallon elevated storage tank to provide domestic and fire protection for the planned 15.4-million square feet of industrial warehouse, distribution, and fabrication space.
Cobblestone Water Main, Berkeley County, SC	3,200 linear feet of 24-inch water main, 1,100 linear feet of 16-inch water main, four linear feet of 12-inch water main, 400 linear feet of 10-inch water main, 100 linear feet of 6-inch water main, three fire hydrants, and associated appurtenances along Hwy 176.
Palmetto Bluff Phase II, Bluffton, SC	32,000 linear feet 18-inch water; 20,000 linear feet 16-inch water; 5,000 linear feet 12-inch force main; 25,000 linear feet 10-inch force main; 50,000 linear feet 8-inch, 12-inch, 15-inch, and 18-inch sanitary sewer.
Morgan Tract, Jasper County, SC	8,000 linear feet 16-inch water; 1,500 linear feet 18-inch sanitary sewer; 6,000 linear feet 16-inch force main; 1,000 linear feet 18-inch force main.
Anderson Tract, Jasper County, SC	4,000 linear feet 16-inch water; 3,000 linear feet 20-inch force main.
South Park Village, Horry County, SC	1,500 linear feet of 20-inch, 625 linear feet of 18-inch, 1,050 linear feet of 15-inch, 3,200 linear feet of 10-inch, and 4,800 linear feet of 8-inch gravity sewer line; Master Pump Station: Triplex submersible 1,000-gpm pumps, gravity sewer consisting of gravity sewer line and 5,500 linear feet of dual 12-inch PVC force main.
New Riverside Water, Bluffton, SC	25,000 linear feet 18-inch \emptyset C-900 water main.
Palmetto Bluff Water, Bluffton, SC	6,000 linear feet 20-inch, 27,000 \emptyset , linear feet 18-inch \emptyset , 30,000 linear feet 12-inch and less water.
Wando River Water Main, Mount Pleasant, SC	6,000 linear feet 24-inch D.I. water with 400 linear feet direction drill under wetlands.
24-Inch Water Main Extension to Exit 8, Beaufort-Jasper Water & Sewer Authority, Hardeeville, SC	35,000 linear feet of 24-inch ductile iron water main installation with 500 linear feet of directional drill of I-95.
South Park Village, Horry County, SC	Modeling and analysis for water system upgrades and the connection to existing 24-inch water main; 1,500 linear feet of 20-inch gravity sewer; 625 linear feet of 18-inch gravity sewer; 1,050 linear feet of 15-inch gravity sewer; 3,200 linear feet of 10-inch gravity sewer; 4,800 linear feet of 8-inch gravity sewer.
Highway 278 Water Main to Exit 8, Beaufort and Jasper Counties, SC	21,000 linear feet 24-inch D.I. water.

PROJECT	DESCRIPTION OF PROJECT
Mount Pleasant Waterworks, Mount Pleasant, SC	6,000 linear feet of 24-inch water main; 400 linear feet of 20-inch water main; 14,600 linear feet of 12-inch water main; 5,700 linear feet of 8-inch water main; 2,200 linear feet of 6-inch water main.
Wando River Water Main Connection to Charleston CPW, Charleston County, SC	6,000 linear feet of 24-inch DIP water main.
Daniel Island Interchange Water and Sewer, Mount Pleasant, SC	4,600 linear feet 24-inch and 12 -inch water; 7,000 linear feet 24-inch to 8-inch sanitary sewer.
Daniel Island Water Main Connection to Mount Pleasant, Mount Pleasant, SC	3,720 linear feet 36-inch water, 450 linear feet 24-inch water and 600 linear feet 12-inch water.
Thomas Island Water, Mount Pleasant, SC	6,000 linear feet 20-inch water.
Daniel Island Water Main Connection to Mount Pleasant, Mount Pleasant, SC	3,720 linear feet 36-inch water, 450 linear feet 24-inch water and 600 linear feet 12-inch water

PUMP STATION UPGRADE/REHABILITATION/REPLACEMENT EXPERIENCE

PROJECT NAME & LOCATION	CLIENT	PROJECT DESCRIPTION
Isle of Palms Pump Station No. 19, Isle of Palms, SC	Isle of Palms Water & Sewer	Replacement of an above ground suction lift station with a submersible pump station with increased pumping capacity of 500-gpm. Included installation of approximately 1,900 feet of 8-inch force main. New pump station installed adjacent to the existing station, minimizing duration of bypass activities.
Isle of Palms Pump Station No. 20, Isle of Palms, SC	Isle of Palms Water & Sewer	Replacement of an above ground suction lift station with a submersible pump station with increased pumping capacity of 450-gpm. Included installation of approximately 2,400 feet of 8-inch force main. New pump station installed adjacent to the existing station, minimizing duration of bypass activities.
Isle of Palms Pump Station No. 22, Isle of Palms, SC	Isle of Palms Water & Sewer	Replacement of an above ground suction lift station with a submersible pump station with increased pumping capacity of 340-gpm. Included installation of approximately 1,450 feet of 8-inch force main. New 8-foot diameter wet well installed adjacent to existing pump station, minimizing duration of bypass activities.
Isle of Palms Pump Station No. 23, Isle of Palms, SC	Isle of Palms Water & Sewer	Replacement of an existing submersible station with a new 240-gpm submersible pump station. Existing pump station site was confined within a 20-foot by 25-foot easement. Included installation of a new wet well adjacent to the existing wet well, completion of a majority of the new station while the existing was operating, minimizing duration of bypass activities. Approximately 540 feet of 6-inch force main was installed as part of the project.
Jack Primus Regional Pump Station, Berkeley County, SC	Charleston Water Systems	Construction administration, contract administration, and permitting for a 2,800-gpm triplex pump station; 33,000 linear feet of 24-inch force main; 6,000 linear feet of 12-inch gravity sewer; and associated work. The project also included the installation of 1,400 linear feet of 30-inch HDPE force main by HDD method under surrounding marsh by HDD. This project was the first public sewer in the Cainhoy area of Berkeley County, SC.
Replacement of Coligny Circle Pump Station Hilton Head Island, SC	South Island Public Service District	Pump station replacement, including new pre-cast concrete wet well and valve pit, two new 725-gpm submersible pumps in the wet well, approximately 1,800 feet of 8-inch force main, abandonment of existing concrete dry well, and construction contract administration.
Hamlets at Crowfield Pump Station, Berkeley County, SC	Westvaco Development Corp.	Approximately 160-gpm; 4-inch force main.
I'ON Offsite Force Main and Pump Station Rehabilitation, Mount Pleasant, SC	Mount Pleasant Waterworks	6,200 feet of 8-inch force main to divert flow from Von Kolnitz pump station to Colman Boulevard with a hydraulic analysis of manifold force mains. Included survey, line sizing/design, and analysis of impacts to existing manifold pump station and design of enhancements to the existing Hobcaw pump station.

PROJECT NAME & LOCATION	CLIENT	PROJECT DESCRIPTION
Kiawah Island Sewer Conveyance System Modeling, Kiawah Island, SC	Kiawah Island Utilities	Model of existing sewer system consisting of over 50 pump stations, over 50,000 feet of gravity line, and approximately 92,000 feet of force main to assess the need for various project upgrades, replacements, and rehabilitations within existing system. Replacements and rehabilitation were prioritized and costed for inclusion into the CIP.
Mount Pleasant Waterworks Pump Station Upgrades, Mount Pleasant, SC	Mount Pleasant Waterworks	Upgrade of six duplex pump stations ranging in size from 150-gpm to 725-gpm. Upgrade of a 3,360-gpm triplex pump station.
Upgrade to Forest Beach No. 3 Pump Station, Hilton Head Island, SC	South Island Public Service District	Existing wet well converted into an influent manhole for additional wet well storage. The existing dry well was abandoned and the pumps removed and pump building was retrofitted to include air conditioned variable frequency drive room; existing odor control system was removed; existing by-pass wet well was removed after construction; new triplex 3,050-gpm pumps in 12-foot diameter wet well; new valve pit with silent check valves, plug valves, and emergency quick disconnect installed; and new ultrasonic level control system with float backup.
South Park Village, Horry County, SC	Myrtle Beach Air Base Redevelopment Authority	Master pump station rehabilitation converted to a triplex submersible, including 1,000-gpm pumps, gravity sewer consisting of gravity sewer line and 5,500 feet of dual 12-inch PVC force main; 1,500 feet of 20-inch, 625 feet of 18-inch; 1,050 feet of 15-inch; 3,250 feet of 10-inch; and 4,800 feet of 8-inch gravity sewer line.
Northern Sand Hill Pump Station, Beaufort County, SC	Beaufort Jasper Water & Sewer Authority	2,200-gpm suction lift station pump station; 18-inch and 21-inch sanitary sewer; and 10,200 feet of 12-inch force main.
Mill Pond Road Pump Station Upgrades, Varnville, SC	Town of Varnville	CDBG-funded pump station upgrade, including installation of new submersible pumps, controls, discharge piping, by-pass pumping, wet well modifications, and other site improvements.
Central Berkeley Wastewater Treatment Plant Flow Diversion – West, Berkeley County, SC	Berkeley County Water and Sanitation	Wastewater master plan for 20,200 acres of service areas over a 30-year study period, including proposed Pump Station #111 and proposed Pump Station #112 and preliminary pump station capacities. Included installation of approximately 26,600 linear feet of 16-inch force main, 12,800 linear feet of 20-inch force main, 500 linear feet of 30-inch gravity sewer, 70 linear feet of 30-inch steel casing by jack and bore beneath Cane Bay Blvd, 110 linear feet of 36-inch steel casing by jack and bore beneath SC Hwy 17A and a new triplex 140 hp wastewater pump station with VFDs.
Cane Bay Pump Stations, Berkeley County, SC	Gramling Brothers Real Estate	Four pump stations and associated force mains: Main Pump Station: Duplex submersible 1,250-gpm pumps, 14 manholes, 2,770 feet of 24-inch gravity and 19,600 feet of 16-inch force main; Pump Station No. 3: Duplex submersible 560-gpm pumps with 6,900 feet of 10-inch force main; Pump Station No. 4: Duplex submersible 735-gpm pumps with 10,500 feet of 12-inch force main; Pump Station No. 7: Duplex submersible 550-gpm pumps with 3,150 feet of 8-inch force main. All stations adhered to BCWS requirements.
Pump Station 106 Upgrade and Force Main Extension, Berkeley County, SC	Berkeley County Water and Sanitation	Sewer system improvement project to improve the pumping capacity of BCWS Pump Station 106 along US Hwy 52 in Berkeley County, SC. The project included installation of approximately 18,400 linear feet of 18-inch ductile iron force main, 490 linear feet of 30-inch steel casing by jack and bore (beneath: Medway Road, Montague Plantation Road, CSX Railroad, Stephanie Drive, and Hollywood Drive) and upgrading the existing Pump Station 106 to increase capacity from 1,050-gpm to 1,600-gpm.
St. Stephen Sewer Rehabilitation, Berkeley County, SC	Berkeley County Water and Sanitation	Sewer rehabilitation project to improve a significant portion of the recently acquired St. Stephen Wastewater Collection System. A representative portion of the target area was cleaned and inspected through closed-circuit television, and the appropriate rehabilitation methods were selected. The trenchless methods utilized for this project included cured-in-place pipe for mainline gravity sewer, the Vac-a-Tee process for cleanout installations at the right-of-way and the T-liner for internal refurbishment of services.



FAMILIARITY WITH FEDERAL FUNDING REQUIREMENTS

FAMILIARITY WITH FEDERAL FUNDING REQUIREMENTS

Thomas & Hutton has extensive experience with grant-funded projects. Our team has completed over 75 CDBG grant projects and over 200 other state or federally funded projects over a 25-year period. We have the know-how to complete the contractual portions and special conditions of the project.

With Dale Culbreth as our Grants Administrator bringing 30 years of grant writing experience, Thomas & Hutton is well-versed in the requirements that these projects entail from a design standpoint, as well as from the regulatory/funding side. Thomas & Hutton assists municipal and public utility clients with grant and loan applications on a variety of local, state, and federal programs, including project identification and justification; identification of most appropriate loan/grant program; application preparation including project description, justification, cost estimate, and exhibits; preparation of Preliminary Engineering Reports and Environmental Reports, as required; and response to technical questions from grant agencies.

Thomas & Hutton researches, identifies, negotiates, and recommends conventional and unconventional funding programs for clients including grants, loans, and bonds from various federal, state, and local government programs. We expedite funding assistance for an extensive range of infrastructure, community, and economic development projects for both public and private clients in finding alternative funding solutions that result in lower local costs. We assist public agencies and private corporations with single-source accountability for planning, design, funding assistance, and construction services on various sized projects.

Some of the funding sources our team has worked with in the past include the State Revolving Fund (SRF) Local Option Sales Tax programs; Community Development Block Grant (CDBG); Rural Infrastructure Authority (RIA); American Rescue Plan Act (ARPA); USDA Rural Development; Federal Emergency Management Agency (FEMA); and Economic Development Administration (EDA). Having completed numerous grant-funded projects, our team is eager to assist the Owner in completing a successful project.

The following is a partial listing of Thomas & Hutton's project experience that included federal funding:

PROJECT	YEAR	FUNDING PROGRAM
Town of James Island Creek Basin Drainage Master Plan, James Island, SC	2022	CDBG-MIT
Fibretex Wastewater Infrastructure, Laurens County Water and Sewer Commission, Laurens County, SC	2021	Rural Infrastructure Authority - ED
Highway 27 Road Improvements, Dorchester County, SC	2021	EDA
Peach Road Water Main, Fairfield County, SC	2020	Rural Infrastructure Authority - ED
Winding Woods Spec Building Water and Sewer Extension, Dorchester County, SC	2020	Rural Infrastructure Authority - ED
Woodside Mill Village Sewer Relocation, City of Greenville, SC	2020	Rural Infrastructure Authority - Utility
Pump Stations 12 and 13 Upgrade, Berkeley County, SC	2020	Rural Infrastructure Authority - Utility
Pump Station 106 Improvements, Berkeley County, SC	2020	CWSRF
WWTPs Flood Proofing and Construction, Town of Isle of Palms, SC	2019	FEMA
Venture Industrial Park Water and Wastewater Improvements, Colleton County, SC	2019	EDA
Venture Industrial Park Water and Wastewater Improvements, Colleton County, SC	2019	Rural Infrastructure Authority - ED
Hwy 327 Project, Florence County, SC	2019	EDA
Roy Metal Finishing (RMF) Sewer Extension, Greenville County, SC	2019	Rural Infrastructure Authority - ED
Park Signage and Roadway, McCormick County, SC	2019	Site Enhancement Grant
Dragon's Lair, Aiken County, SC	2019	Site Enhancement Grant
Riverdale Community Water and Sewer Improvements, City of Camden, SC	2018	CDBG
Connexial Center Roadway, Laurens County, SC	2018	Site Enhancement
Connexial Center Sewer Improvements, Laurens County, SC	2018	Rural Infrastructure Authority - ED



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