



# STATEMENT OF QUALIFICATIONS FOR PROFESSIONAL ENGINEERING SERVICES



## ENGINEERING SERVICES FOR VARIOUS PROJECTS AND ON CALL SERVICES

### Contact:

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Randy W. Beckner  
Bradley C. Craig  
Wm. Thomas Austin  
James B. Voso  
Chad M. Thomas  
Jason A. Carder  
Brian R. Newman



Edwin K. Mattem, Jr. (1949-1982)  
Gene R. Cress (1935-2014)  
Sam H. McGhee, III (1940-2018)  
Stewart W. Hubbell (Retired)  
J. Wayne Craig (Retired)  
Michael S. Agee (Retired)  
Steven A. Campbell (Retired)  
Randy L. Dodson (Retired)

October 17, 2022

Mr. Jake Broom – Chief Operating Officer  
Municipal Association of South Carolina  
PO Box 12109  
Columbia, SC 29211  
Email: [jbroom@masc.sc](mailto:jbroom@masc.sc)

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

Dear Mr. Broom:

Mattern & Craig (M&C) is pleased to submit the information herein to the Municipal Association of South Carolina (MASC) in response to your recent Request for Qualifications to provide Engineering Services for Various Projects and On-Call Services funded through the American Rescue Plan Act (ARPA), including water and sewer system improvements. We have reviewed the Scope of Services listed and are confident our team is well-suited to provide services on all project types within the RFQ. We will provide the same attention to detail and professional services that many Cities, Towns, and Counties in the region have come to expect from M&C.

Projects similar to these have been a mainstay for M&C throughout the 44 years we have been in business. Working with smaller cities and towns has been a constant, and we have many longstanding relationships with smaller municipalities, counties, and planning councils/districts. M&C is properly registered and licensed in the State of South Carolina (COA 1138) to perform the services sought herein.

I will serve as Principal-in-Charge to assist and facilitate the work and to ensure your projects are provided with the detailed and comprehensive services required. Forest McKenzie, PE, PLS, will serve as the Project Manager and your direct point of contact. Forest will be responsible for directing our resources and overseeing the daily activities of our team, assigning qualified staff to meet critical deadlines, and ensuring the overall quality of services. Our ultimate goal, as always, will be to provide the quality services that you require on schedule and within budget while fostering a professional relationship upon which you may rely at any time.

We welcome an opportunity to discuss any information herein in a more detailed manner at your request. Please do not hesitate to contact me should you have any questions; [rwbeckner@matternandcraig.com](mailto:rwbeckner@matternandcraig.com) or (843) 225.8391.

Sincerely,

Randy W. Beckner, PE  
Principal-in-Charge

RWB/kmp



### Technical Approach

Mattern & Craig will observe the traditional Phases of work and tasks as described within the *Engineers Joint Contract Documents Committee ("EJCDC") Agreement Between Owner and Engineer for Professional Services* (endorsed by the American Council of Engineering Companies, the American Society of Civil Engineers, and the National Society of Professional Engineers respectively).



These phases will be augmented or revised as indicated below based on our experience in performing past work on similar projects. We will incorporate the proactive business practices that were briefly described within the previous sections herein into this Methodology, and we will seek to incorporate all Municipal Association of South Carolina (MASC) input into the Methodology as appropriate.

Upon notification of selection and successful execution of an Agreement for all services, we will seek to observe the following structure/methodology for the execution of the work. Communication shall be key, and within this structure, we will propose to organize and conduct Project Status meetings at regular intervals (determined as necessary based on conditions at the time):

#### I. KICK-OFF MEETING; INITIATION OF SURVEYS AND PERMITS

A. Mattern & Craig will:

1. Coordinate with MASC and all pertinent stakeholders (funding agency personnel; regulatory personnel; citizens; etc.) to conduct a detailed meeting to review Project Goals; review the proposed scope and phase of services, and discuss any pertinent items related to the Project. Concurrently, we will initiate the completion of field surveys; permit applications, and supporting documentation for the work.

#### II. STUDY AND REPORT PHASE

A. It appears by the detailed scope included in the RFQ that the Study and Report Phase is complete. However, Mattern & Craig will:

1. Consult with MASC to define and clarify its requirements for the project and to obtain all available data.
2. Advise MASC of any need to provide data or services which are not traditionally part of these Basic Services. An example is preliminary Geotechnical Evaluations.
3. Evaluate MASC provided concept sketch for viability and conformance to all zoning and development regulations and revise accordingly.
4. Prepare a letter report (the "Report") with all schematic layouts, sketches, conceptual design criteria (with appropriate exhibits to indicate the considerations involved), and the alternates available with preliminary cost estimates.
5. Mattern & Craig shall also initiate or continue the following concurrent with the approval of the Study and Report Phase tasks:
  - a. Environmental Clearance Reports such as any Stormwater Management Pollution Prevention Plan (SWPPP) requirements and any necessary Aquatic Resources Alteration Permits (ARAP) for the Project.
  - b. Assist with funding applications as appropriate.
  - c. Field surveys along with the initiation of services for the preparation of easements or rights-of-way required to complete the Project.
6. Furnish three (3) review copies of the Letter Report and any other deliverables to the City on a schedule as stated in the following Project Schedule and review it with MASC personnel.

Revise the Report and any other deliverables in response to MASC comments, as appropriate, and furnish three (3) copies of the revised Report and any other deliverables to MASC.



### III. PRELIMINARY DESIGN PHASE

#### A. Mattern & Craig will:

1. Prepare 30% Preliminary Design Phase documents consisting of final design criteria, preliminary drawings, outline specifications (in accordance with standard MASC Specifications), and written descriptions of the project.
2. Provide necessary field surveys and topographic and utility mapping for design purposes. Utility mapping will be based on information obtained from utility owners.
3. Provide three copies of maps showing the general location of required construction easements and permanent easements and the land to be acquired.
4. Advise whether any additional reports, data, information, or services such as Geotechnical Reports are warranted.
5. Prepare a revised opinion of the probable Construction Cost and assist MASC in estimating total project costs.
6. Furnish three (3) review copies of the Preliminary Design Phase documents and any other deliverables to MASC within the schedule as stated in the following Project Schedule and review them with MASC Staff.
7. Revise the Preliminary Design Phase documents and any other deliverables in response to comments from MASC Staff, as appropriate, and furnish three (3) copies of the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and any other deliverables that are required.

### IV. FINAL DESIGN PHASE

- #### A. After acceptance by MASC of the Preliminary Design Phase documents, revised opinion of probable Construction Cost as determined in the Preliminary Design Phase, and any other deliverables subject to any City-directed modifications or changes in the scope, extent, character, or design requirements of or for the project, we will:



1. Prepare 90% drawings and corresponding MASC specifications indicating the scope, extent, and character of the Work to be performed and furnished by the Contractor.
2. Provide technical criteria, written descriptions, and design data for use in filing applications for permits from or approvals of governmental authorities having jurisdiction to review or approve the final design of the project, such as the aforementioned SWPPP and ARAP permits.
3. Advise of any adjustments to the opinion of probable Construction Costs and any adjustments to total project costs.
4. Prepare and furnish Bidding Documents for your review, its legal counsel, its other advisors, and regulatory agencies within the schedule as stated in the following Project Schedule, and assist in preparing other related documents.
5. Revise the Bidding Documents in accordance with comments and instructions from MASC, as appropriate, and submit three (3) final 100% copies of the Bidding Documents, a revised opinion of probable Construction Cost, and any other deliverables within the schedule as stated in the following Project Schedule.

### V. BIDDING OR NEGOTIATING PHASE

- #### A. After acceptance by MASC of the Bidding Documents and the most recent opinion of probable Construction Cost as determined in the Final Design Phase we will:



1. Assist MASC in advertising for and obtaining bids or proposals for the work and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, attend pre-bid conferences, if any, and receive and process contractor deposits or charges for the Bidding Documents.
2. Issue Addenda as appropriate to clarify, correct, or change the Bidding Documents.
3. Provide information or assistance needed by MASC in the course of any negotiations with prospective contractors.
4. Consult with MASC as to the acceptability of subcontractors, suppliers, and other individuals and entities proposed by prospective contractors for those portions of the work as to which such acceptability is required by the Bidding Documents.
5. Determine the acceptability of substitute materials and equipment proposed when substitution is necessary because the specified item is incompatible with the project or fails to comply with applicable codes.
6. Attend and conduct the bid opening, prepare bid tabulation sheets, and assist MASC in evaluating Bids or proposals and in assembling and awarding contracts for the work.

## VI. CONSTRUCTION PHASE

- A. Upon successful completion of the Bidding and Negotiating Phase, and upon written authorization from MASC, we will, at the convenience of MASC personnel, provide:
1. General Administration of Construction Contract.
  2. Resident Project Representative (RPR) services according to further stipulations related thereto contractually.
  3. Coordinate and conduct a Pre-Construction Conference prior to the commencement of Work at the Site. If RPR services are provided by the Engineer, ensure RPR attends Pre-Construction Conference.
  4. Evaluate Schedules. Receive, review, and determine the acceptability of any and all schedules that the Contractor is required to submit, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.
  5. Provide Field Survey Baselines and Benchmarks. As appropriate, establish baselines and benchmarks for locating the Work which is necessary to enable the Contractor to proceed.
  6. Conduct Visits to the Site and Observation of Construction.
  7. Advise MASC of Defective Work. Recommend that Contractor's work be rejected while it is in progress if it is believed that such work will not produce a completed project that conforms generally to the Contract Documents or that it will threaten the integrity of the design concept of the completed project as a functioning whole as indicated in the Contract Documents.
  8. Issue Clarifications and Interpretations; Field Orders. Issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of the Contractor's work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents.
  9. Change Orders and Work Change Directives. Recommend Change Orders and Work Change Directives to MASC, as appropriate, and prepare Change Orders and Work Change Directives as required.
  10. Shop Drawings and Samples. Review and approve or take other appropriate action with respect to Shop Drawings Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed project as a functioning whole as indicated by the Contract Documents. Such reviews and





approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or safety precautions and programs incident thereto.

11. Substitutes and “or-equal”. Evaluate and determine the acceptability of substitute or “or-equal” materials and equipment proposed by the Contractor.
12. Inspections and Tests. Require such special inspections or tests of the Contractor’s work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by laws and regulations or the Contract Documents.
13. Disagreements between Owner and Contractor. Render formal written decisions on all duly submitted issues relating to the acceptability of the Contractor’s work or the interpretation of the requirements of the Contract Documents pertaining to the execution, performance, or progress of the Contractor’s work; review each duly submitted claim by MASC or Contractor, and in writing either deny such claim in whole or in part, approve such claim, or decline to resolve such claim if we conclude that to do so would be inappropriate. In rendering such decisions, M&C shall be fair and not show partiality to MASC or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.
14. Applications for Payment. Based on observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation, review, revise if necessary and recommend project payments.
15. Substantial Completion. Promptly after notice from the Contractor that the Contractor considers the entire work ready for its intended use, in company with MASC personnel and Contractor, conduct a pre-final inspection to determine if the work is substantially complete. If, after considering any objections from MASC, we consider the work substantially complete, we will deliver a certificate of Substantial Completion to MASC and the Contractor.
16. Record Drawings. Prepare and furnish to MASC a set of reproducible Project Record Drawings showing appropriate record information based on Record Drawing information from the Contractor and project documentation received from RPR.
17. Final Notice of Acceptability of the Work. Determine if the completed work of the contractor is acceptable and recommend, in writing, final payment to the Contractor, accompanying the recommendation for final payment.

## VII. POST-CONSTRUCTION PHASE

- A. For a project of this nature, the only post-construction phase services that we would recommend would be a warranty inspection within one month of the end of the warranty period.

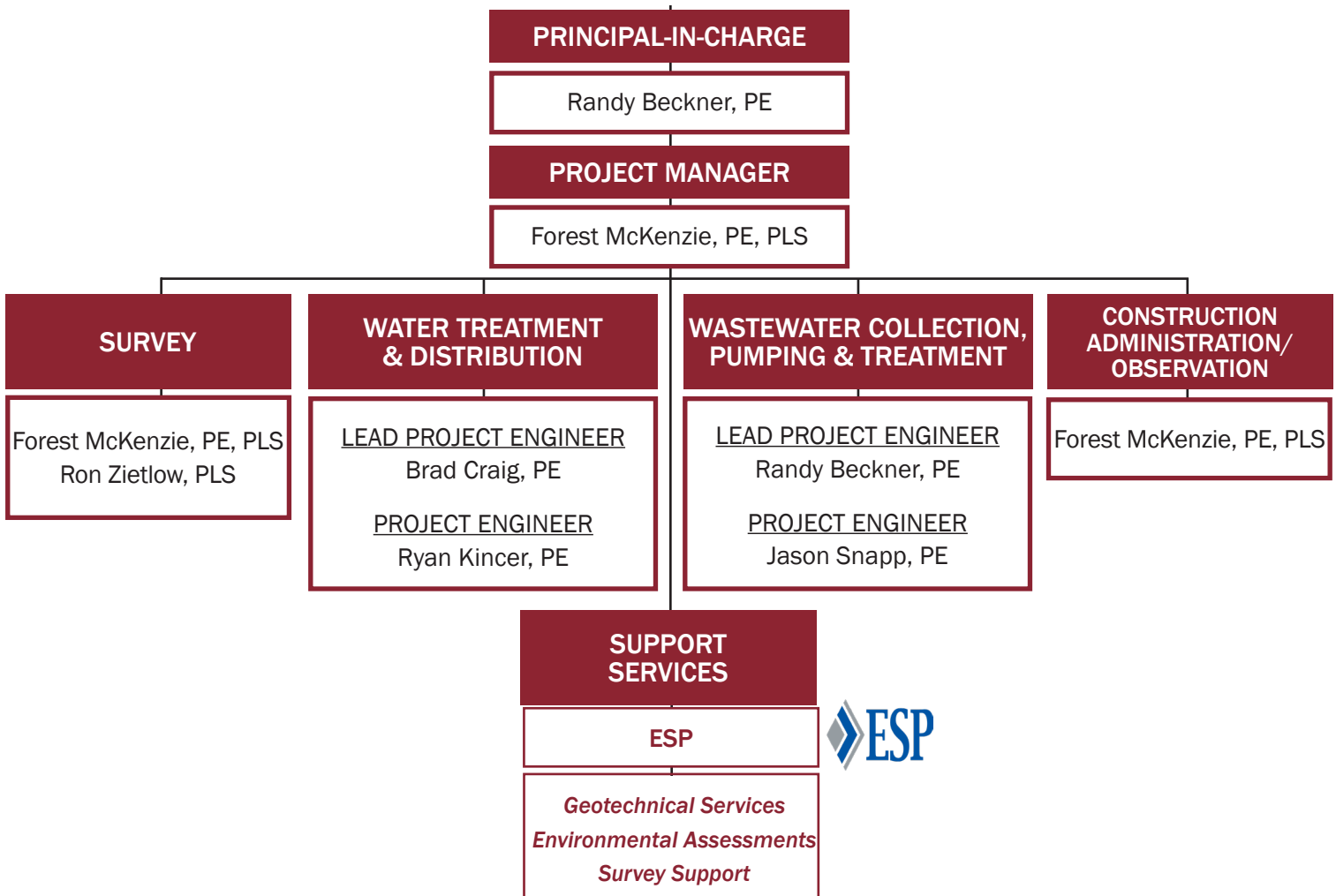


## Work Management Plan/Experience of Proposed Personnel

Forest McKenzie, PE, PLS will serve as Project Manager and will be the direct point of contact between the project team and the Municipal Association of South Carolina staff. As with all of our projects, a project-specific schedule will be developed by the Project Manager at the onset of the work and will be monitored as the project progresses.

Randy Beckner, P.E. will serve as Principal-In-Charge of the project. Being a Principal in the firm, Mr. Beckner can ensure that proper resources are allocated to this project to guarantee the work is completed on time and on budget. As the project progresses, M&C will perform QA/QC reviews to ensure the accuracy and quality of the design such as calculation checks, plan progress reviews, and independent evaluations. We also plan to utilize remote software tools and networked project filing to share information between team members to the Municipal Association of South Carolina staff. This approach maintains consistent communication & project coordination during the design development of the project in order to meet the M&C team's main objective - to act as an extension of the Municipal Association of South Carolina staff and provide knowledgeable, qualified professionals to guarantee the success of the project.

### Organizational Chart





**Randy Beckner, PE**  
Principal-in-Charge/Lead Project Engineer - Wastewater

**Office Location**

Johnson City, TN

**Years of Experience**

With Mattern & Craig	34 Years
With Other Firms	2 Years

**Education**

B.S./1986/Civil Engineering/VA Tech

**Registration**

1991/PE/VA #21885	1994/PE/TN #101559
1994/PE/NC #20327	2020/PE/SC #38222
2001/PE/GA #027172	2005/PE/WV #16399
2007/PE/KY #25518	

**Certifications**

Work Zone Traffic Control/Flagging  
1994/Ind'l. WW Pretreatment  
10 Hr. OSHA Construction Safety  
TNEPSC – Levels I & II

**Professional Memberships**

Order of the Engineer  
American Society of Civil Engineers (ASCE)  
Tennessee Water/Wastewater Association  
American Public Works Association (APWA)

**Specialties**

- Construction Engineering Inspection (CEI)
- Project Management
- Outdoor Recreational Access Analysis and Design
- Civil and Structural Engineering
  - ◆ Water/Wastewater Buildings & Structures
  - ◆ Sewer Collection and Treatment
  - ◆ Water Distribution, Storage, and Treatment
  - ◆ Storm Drainage and Flood Protection
  - ◆ Landfills
  - ◆ Site Development
  - ◆ Bridges and Roadways
  - ◆ Pedestrian Facilities
  - ◆ Rail Projects

**Experience Overview**

Randy serves as Principal-in-Charge and/or Project Manager on numerous civil engineering design projects, including a broad range of water and sewer line upgrades, replacements, relocations, and installations. His experience includes all aspects of water distribution, treatment, storage, pumping, and storage, beginning with planning, feasibility studies, and modeling and ending with construction administration and project completion certification.

**Representative Projects**

***Repair Various Dry Well Lift Stations at Joint Base Charleston; Zapata Group; North Charleston, SC*** – Principal-in-Charge – In support of Zapata's Design Work Order to design three (3) new sanitary sewer pump stations Mattern & Craig was retained to perform drawdown test on five (5) existing Dry Well Lift Stations at Joint Base Charleston. The five pump stations were located on the old Charleston Naval Weapons Station, and they are all approximately 30 years old and in need of replacement or repair. The information gathered from these test enabled Mattern & Craig to determine flow characteristics and diagnose potential problems of each lift station. Zapata also used this information in their design to estimate the maximum anticipated capacity for each new station.

***Sullivan East High School Sewer Upgrade; Sullivan County, TN*** – Principal-in-Charge/Project Manager – Design an approximate 5,000 LF gravity sewer line from the existing Sullivan East High School to the pump station just below Sullivan East Middle School. Services included permitting, preparation of easements, easement negotiations assistance, bidding, construction administration, and resident project representation.

***Ross Circle Sewer Line; Rogersville, TN*** – Principal-in-Charge – Provided Survey, Design, permitting (including TDOT ROW permit and TDEC approvals), CEI, and construction administration services for the construction of approximately 1,000 linear feet of 8" sewer line along US-11W and Rose Circle in Rogersville, TN for the Town of Rogersville Wastewater Department.

***2021 Water System Upgrades; Gate City, VA*** – Principal-in-Charge – Project included an initial Preliminary Engineering Report, designed five backup generators for Gate City's WTP and existing 4 pump stations as well as the design of a new pump station and backup generator at a location to be determined in the PER. Also included installing five master meters in various location in Gate City's water system along with demolition the old reclaim tank at the WTP. Provided site survey, design, inspection and construction administration services for the project. Included the completion of a Water Business Operations Plan.





**Forest McKenzie, II, PE, PLS**  
 Project Manager &  
 Construction Administration/Observation

**Office Location**

Charleston, SC

**Years of Experience**

With Mattern & Craig < 1 Year  
 With Other Firms 35 Years

**Education**

B.S./2002/Civil Engineering/The Citadel  
 B.S./1986/Agricultural Mechanization and Business/Clemson Univ.

**Registration**

2008/PE/SC #25143	2006/PLS/SC #25143
2021/PE/NC #053351	2013/PE/GA #037763
2011/PE/AL #PE32217	2012/PE/MO #2012009862
2020/PE/ND #PE-29027	2021/PE/NY #104355
2019/PE/WI #46878-6	

**Professional Memberships**

- Society of American Military Engineers (SAME)
- American Society of Civil Engineers (ASCE)
- Civil Engineers Club of Charleston
- South Carolina Society of Professional Land Surveyors (SCSPLS)

**Specialties**

- Land Development Survey
- Civil 3D 2022
- AutoTurn
- Hydraflow 2004
- MathCAD Prime 7
- SMI Data Collection Systems
- Bentley Water CAD

**Experience Overview**

Forest has more than 35 years of civil engineering and land surveying experience working in both the public and private sectors. He has worked in the design of water and sanitary sewer distribution systems, environmental science, stormwater detention systems and erosion control, grading and pavement design, and subdivision and site design for municipal, military, industrial, institutional, commercial, and residential developments.

**Representative Projects**

**SC Aeronautical Training Center (SCATC) Rivers Avenue Driveway; North Charleston, SC** – Project Manager – This site is located in the City of North Charleston, SC on the Northwest corner of Trident Technical College campus. The driveway was originally designed in 2016 for the SCATC campus. In late 2018 construction began on this project. During construction, contractor crews discovered that the Charleston Water System (CWS) 30-inch Cast Iron water main that runs along Rivers Avenue at this point, was only installed 8-10 inches below the surface. Because of the shallow bury depth, CWS requested TTC to cease work while they designed a vertical offset for the section of the main that passed under the new driveway. CWS has installed the vertical offset and TTC has asked M&C to re-design their Rivers Avenue driveway taking into account the current conditions. M&C provided construction documents and CA services for the construction of the new SCATC Rivers Ave. driveway and turning lane for the facility.

**Repair Various Dry Well Lift Stations at Joint Base Charleston; Zapata Group; North Charleston, SC** – Project Manager – In support of Zapata's Design Work Order to design three (3) new sanitary sewer pump stations M&C was retained to perform a drawdown test on five (5) existing Dry Well Lift Stations at Joint Base Charleston. The five pump stations were located on the old Charleston Naval Weapons Station and they are all approximately 30 years old and in need of replacement or repair. The information gathered from these tests enabled M&C to determine flow characteristics and diagnose potential problems of each lift station. Zapata also used this information in their design to estimate the maximum anticipated capacity for each new station.

**Shaw Air Force Base Medical Clinic Replacement; Shaw Air Force Base, SC** – Project Manager/Lead Engineer – This project included the design of sitework and improvements, utilities, permitting, access roads, and parking for the replacement of a medical clinic. Provided surveying as well as civil engineering design for site demolition, new underground utilities, relocation of existing underground utilities, site grading, new communication building, 3,000lf electrical ductbank route, and erosion and sediment control. The results of the SUE Level B survey identified approximately 1,100 LF of 6-inch water main that will need to be relocated for the construction of the new site. The new medical clinic building also required the design of approx. 2,000lf of 12-inch to 15-inch storm drain pipe and 700lf of 8-inch sanitary sewer main. *(Personal experience of Forest McKenzie.)*



**Bradley Craig, PE**  
Lead Project Engineer - Water

Office Location

Roanoke, VA

Years of Experience

With Mattern & Craig                      29 Years  
With Other Firms                              3 Years

Education

B.S./1989/Civil Engineering/VA Tech

Registration

1993/PE/VA #23879

Certifications

Registered Gas Distribution Professional (RGPD)  
National Assn. of Sewer Services Companies (NASSCO) - PACP, MACP, and LACP

Professional Memberships

American Public Works Association  
Virginia Rural Water Association

Specialties

Water and wastewater utility design  
Water treatment  
Wastewater treatment  
Hydraulic analyses (WaterCAD, KYPipe, SewerCAD)  
Site Development  
Funding Assistance

Experience Overview

Brad is very experienced with the planning, study, and design of water facilities including source development, water treatment, pumping, distribution, and storage. His experience includes the design of raw water intake structures (on rivers), the development of wells and springs as sources, and the design of both conventional and membrane water filtration plants. He has designed numerous water pumping stations, many of which contained complex pump control and monitoring systems (including SCADA). Brad's experience with distribution system design includes hydraulic modeling (utilizing KYPipe and WaterCAD) and the design of various-sized waterlines including larger diameter (24" and greater) piping. he has led the firm's efforts on several wastewater I/I projects that involved flow monitoring, preparation of P.E.R., and design of sewer replacement projects. He has also designed wastewater pumping stations with various types of pumps (submersible, suction-lift, progressing cavity).

Representative Projects

**Bristol Rte 11 Widening East; Bristol, VA** – Principal-in-Charge – M&C assisted HDR Engineering by preparing relocation plans and special provisions for the water and sewer facilities owned by Bristol Virginia Utilities (BVU) which may be in conflict with the proposed roadway construction. The project is a road widening construction project for Route 11 located in the City of Bristol, extending from the end of the adjacent project (UPC # 119428) approximately 1,500 feet to the east, terminating approximately 400 feet west of Old Airport Road.

**WVWA – Linwood Drive Area Waterline Replacement; Roanoke County, VA** – Principal-in-Charge / Project Manager – Design of approximately 21,700 LF of 8" diameter waterline replacement and appurtenances serving a large subdivision in Roanoke County. Services included surveying of the project area, design (including plan, profiles, details, maintenance of traffic plans, erosion and sediment control plans/details), and bidding phase services. The project required coordination with VDOT for the purposes of obtaining a Land Use Permit.

**WVWA Waterline Replacement – Hollins to Botetourt; Botetourt County, VA** – Principal-in-Charge – The purpose of this project was to increase the capacity of the Western Virginia Water Authority (WVWA) water system to allow for greater transmission of potable water to the Botetourt County service area. We were responsible for the survey and design of a 12" waterline upgrade to replace an undersized existing 8" waterline. The survey included approximately 1,000 linear feet of westbound Route 11/Williamson Road and approximately 300 linear feet of the full roadway width of Reservoir Road. The design included the development of the plan and profile details of the 12" replacement waterline, connection to the existing water system, interconnection of an existing 4" waterline to complete a pressure zone loop, and preparation of the project manual/specifications. The design also included a 300 linear foot section 24" waterline that was constructed in parallel to the 12" waterline as part of a water transmission main upgrade to the WVWA water system to further increase transmission of potable water to the Botetourt County service area.





**Ryan Kincer, PE**  
Project Engineer - Water

**Office Location**

Roanoke, VA

**Years of Experience**

With Mattern & Craig	14 Years
With Other Firms	1 Year

**Education**

B.S./2008/Civil Engineering/VA Tech

**Registration**

2012/PE/ VA #50119

**Certifications**

- 2014/DEQ/Stormwater Management (Basic)
- 2015/DEQ/Stormwater Management (Inspector)
- 2015/DEQ/Stormwater Management (Plan Reviewer)
- 2019/DEQ/Stormwater Management Combined Administrator

**Specialties**

- Traffic Studies
- Site Development
- Site Planning
- Roadway Design
- Hydrology

**Experience Overview**

Ryan possesses relative experience in civil engineering projects with an emphasis on site development and utilities. His expertise in general civil design includes storm drainage, sanitary sewers, water distribution systems, streetscapes, site plans, earthwork, and project planning.

**Representative Projects**

***Bristol Rte 11 Widening West; Bristol, VA*** – Lead Design Engineer – M&C assisted HDR Engineering by preparing relocation plans and special provisions for the water and sewer facilities owned by Bristol Virginia Utilities (BVU) which may be in conflict with the proposed roadway construction. The project is a road widening construction project for Route 11 located in the City of Bristol, extending from Alexis Drive approximately 1,500 feet to the east.

***WVWA – 2022 Term Contract for Professional Engineering Services; Virginia*** – Lead Design Engineer – Project is a term contract to provide General Engineering Services for various water and wastewater-related infrastructure projects involving Western Virginia Water Authority facilities. Individual Task Orders are utilized to complete various services, including studies and reports, modeling and analyses, survey and design for improvements, and bidding and construction-related services. Task Orders may include water and wastewater treatment; water distribution, pumping, and storage; wastewater collection and pumping; and SSES projects

***WVWA Waterline Replacement - Hollins to Botetourt; Botetourt County, VA*** – Project Manager / Lead Design Engineer – The purpose of this project was to increase the capacity of the Western Virginia Water Authority (WVWA) water system to allow for greater transmission of potable water to the Botetourt County service area. We were responsible for the survey and design of a 12" waterline upgrade to replace an undersized existing 8" waterline. The survey included approximately 1,000 linear feet of westbound Route 11/Williamson Road and approximately 300 linear feet of the full roadway width of Reservoir Road. The design included the development of the plan and profile details of the 12" replacement waterline, connection to the existing water system, interconnection of an existing 4" waterline to complete a pressure zone loop, and preparation of the project manual/specifications. The design also included a 300 linear foot section 24" waterline that was constructed in parallel to the 12" waterline as part of a water transmission main upgrade to the WVWA water system to further increase transmission of potable water to the Botetourt County service area.

***VES Road Waterline Replacement; Lynchburg, VA*** – Project Manager / Lead Design Engineer – The purpose of this project was to replace old and undersized 2" water main and provide a loop in the City of Lynchburg's water distribution system along VES Road. The upgrade/replacement of the water main to 8" pipe was necessary to provide adequate fire flows, as determined by the City. We were responsible for providing full right-of-way width topographic survey along VES Road (approx. 2,700 feet), design of replacement 8" water main, plan production, engineer's opinion of probable construction costs, water line stakeout, and as-built survey of the constructed water line. The design and plans were prepared for use by the City with their on-call contractors.



**Jason Snapp, PE**  
Project Engineer - Wastewater

**Office Location**

Kingsport, TN

**Years of Experience**

With Mattern & Craig 15 Years

**Education**

B.S./2008/Civil Engineering/TN Tech University

**Registration**

2012/PE/TN/#115034

2014/PE/VA/#52935

**Certifications**

- 10 Hr. OSHA Construction Safety
- 2013/Erosion & Sediment Control Professional
- TDEC EPSC Level I & II
- National Association of Sewer Services (NASSCO) - PACP, MACP, and LACP
- Work Zone Traffic Control / Flagging

**Specialties**

- Roadway Geometric Design
- Traffic Impact Studies
- Traffic Signal Design
- Storm Drainage Design
- Erosion Prevention & Sediment Control
- Construction Management
- Utility Collections
- System Design
- School Site Design
- Utility System Evaluations and Design

**Experience Overview**

Jason has extensive experience serving as a project engineer for numerous projects. He has extensive experience serving in the roles of Project Engineering and Project Management in the completion of Municipal Engineering Services including wastewater collection and water distribution services. He has provided these services to Tennessee, Virginia, and North Carolina state DOT's as well as local municipalities and private sector clients. He is familiar with many software packages currently used industry-wide including Microstation, Geopak, Synchro, and others.

**Representative Projects**

***Austinville Sewer System Upgrades; Wytheville County, VA*** – Project Engineer – Prepared study, funding applications, survey, design, and construction administration for the replacement/rehabilitation of approximately 2,700 lf of gravity sanitary sewer, and minor improvements to an existing 20 000 gpd trickling filter wastewater treatment plant. Services included Resident Project Representation and easement preparation. The project was funded by DEQ Revolving Loan Funds.

***Installation and Inspection of Mechanical Screens for Rogersville WWTP; Rogersville, TN***– Project Manager – Provided services for the installation of mechanical screens with washer/compactor at the headworks of the Rogersville Wastewater Treatment Plant in Rogersville, TN. Services included: design, permitting, bidding, construction administration, and part-time resident project representation.

***2021 Water System Upgrades; Gate City, VA*** – Project Manager – The project included an initial Preliminary Engineering Report, designed 5 backup generators for Gate City's WTP and existing 4 pump stations as well as the design of a new pump station and backup generator at a location to be determined in the PER. Also included installing 5 master meters in various locations in Gate City's water system along with the demolition of the old reclaim tank at the WTP. Provided site survey, design, inspection, and construction administration services for the project. Included the completion of a Water Business Operations Plan.

***Sewer System PER - Milligan Highway; Elizabethton, TN*** – Lead Design Engineer – Under Master Services Agreement (GES) prepared Preliminary Engineering Report (PER) that evaluated the feasibility, location options, estimated total project costs, and funding options available for a low-pressure system in the Milligan Highway Study Area. PER also evaluated the impact(s) of the new system on three existing collection subsystems, recommended alternative solutions, and total project cost estimates, and identify funding options for improvements. Other services addressed and included were field investigations and mapping updates being performed with the work and other relevant items such as environmental/permit considerations; sequence of work; and schedule.





## Section 3

### Experience of the Firm

Project Name & Location	Nature of Firm's Responsibility	Owner's Name and Address
<b>Bradley Bluehouse Commons Development-Site Plans; North Charleston, SC</b>	The project was a proposed multi-family apartment development consisting of five 3-story buildings totaling 120 units situated on six and a half acres in North Charleston, SC. This project included permits for driveway encroachment, water distribution, gravity sanitary sewer, sanitary sewer pump station, and stormwater management system. Coordination with Charleston Water System, SCDHEC, North Charleston Sewer District, and the City of North Charleston was critical at all design stages. Additionally, the site was adjacent to a sensitive wetland area that required us to work closely with FEMA and local floodplain managers. M&C provided full bid support and construction administration services before and during the construction of the project. <b>Project Status: Ongoing</b>	Bradley Bluehouse Commons, LLC Brett Callaghan c/o Progress Companies 843.438.1040 Office 843.458.3348 Mobile
<b>Repair Various Dry Well Lift Stations at Joint Base Charleston; Zapata Group; North Charleston, SC</b>	In support of Zapata's Design Work Order to design three (3) new sanitary sewer pump stations, M&C was retained to perform a drawdown test on five (5) existing Dry Well Lift Stations at Joint Base Charleston. The five pump stations were located on the old Charleston Naval Weapons Station, and they are all approximately 30 years old and in need of replacement or repair. The information gathered from these tests enabled M&C to determine flow characteristics and diagnose potential problems of each lift station. Zapata also used this information in their design to estimate the maximum anticipated capacity for each new station. <b>Project Status: Ongoing</b>	Zapata Group, Inc. Richard Fernandez, PE 770.691.5101 rfernandez@zapatainc.com
<b>Sullivan East High School Sewer Upgrade; Sullivan County, NC</b>	Design an approximate 5,000 LF gravity sewer line from the existing Sullivan East High School to the pump station just below Sullivan East Middle School. Services included permitting, preparation of easements, easement negotiations assistance, bidding, construction administration, and resident project representation. The project was funded with American Rescue Plan Act (ARPA) grant. <b>Project Status: Ongoing</b>	Sullivan County Dept. of Education Evelyn Rafalowski Director of Schools 423.354.1000 evelyn.rafalowski@sullivank12.net
<b>2021 Water System Upgrades; Gate City, VA</b>	The project included an initial Preliminary Engineering Report, the design of 5 backup generators for Gate City's WTP and existing four pump stations, and the design of a new pump station and backup generator at a location to be determined in the PER. Also included installing five master meters in various areas in Gate City's water system, along with the demolition of the old reclaim tank at the WTP. Provided site survey, design, inspection, and construction administration services for the project. Included the completion of a Water Business Operations Plan. The project was funded by VDH. <b>Project Status: Ongoing</b>	Town of Gate City, VA Greg Jones 276.386.3831 townmanager@mygatecity.com
<b>Route 11 Widening East; Bristol, VA</b>	Mattern & Craig assisted HDR Engineering by preparing relocation plans and special provisions for the water and sewer facilities owned by Bristol Virginia Utilities (BVU), which may conflict with the proposed roadway construction. The project is a road widening construction project for Route 11 located in the City of Bristol, extending from Alexis Drive approximately 1,500 feet to the east, terminating approximately 400 feet west of Old Airport Road. <b>Project Status: Ongoing</b>	HDR Engineering, Inc. Chris Eggleston, PE 540.278.2405 chris.eggleston@hdrinc.com



Project Name & Location	Nature of Firm's Responsibility	Owner's Name and Address
<b>Linwood Drive Area Waterline Replacement; Roanoke County, VA</b>	Design of approximately 21,700 LF of 8" diameter waterline replacement and appurtenances serving a large subdivision in Roanoke County. Services included surveying the project area, design (including plan, profiles, details, maintenance of traffic plans, erosion and sediment control plans/details), and bidding phase services. The project required coordination with VDOT for the purposes of obtaining a Land Use Permit. <b>Project Status: Ongoing</b>	Western Virginia Water Authority Michelle Caruthers, PE Project Manager 540.853.5700 michelle.caruthers@westernvawater.org
<b>Hawthorne Drive Utility Improvements; Norton, VA</b>	Mattern & Craig provided survey, preliminary design, and final design services to relocate approximately 1,100' of 10" waterline and 1,100' of 12" sanitary sewer line to manageable depths for the City of Norton's maintenance purposes. The existing lines were over 20' in depth. The improvements were located at the intersection of Hawthorne Drive and U.S. Alt. 58 in Norton, VA. Services also included coordination with applicable agencies for permitting approvals (VDH, DEQ, VDOT). Construction included jack and boring, both utilities under Alt. 58 due to VDOT requirements. <b>Project Status: Ongoing</b>	City of Norton, VA Stephen McElroy 276.679.1160 scmcelroy@nortonva.org
<b>Hawthorne Road Area Waterline Replacement; Roanoke, VA</b>	Survey and design of approximately 5,300 LF of 8" and 12" diameter waterline replacement in the Hawthorne/Williamson Roads area of Roanoke. The project's purpose was to upgrade undersized 2" galvanized waterlines in the area. Plans included maintenance of traffic provisions for work in an urban area. <b>Project Status: Ongoing</b>	Western VA Water Authority Will Bulloss, P.E. 540.283.2933 will.bulloss@westernvawater.org
<b>WVWA - 2022 Term Contract for Professional Engineering Services; Virginia</b>	The project is a term contract to provide General Engineering Services for various water and wastewater-related infrastructure projects involving Western Virginia Water Authority facilities. Individual Task Orders are utilized to complete various services, including studies and reports, modeling and analyses, survey and design for improvements, and bidding and construction-related services. Task Orders may include water and wastewater treatment; water distribution, pumping, and storage; wastewater collection and pumping; and SSES projects. <b>Project Status: Ongoing</b>	Western Virginia Water Authority Will Bulloss, PE, Project Manager 540.283.2939 will.bulloss@westernvawater.org
<b>Melinda Tank Pressure Zone Improvements - Bidding/Construction/SCADA; Altavista, VA</b>	Performed Bidding Phase and Construction Phase services on a water system infrastructure improvements project designed by another firm. Services included a review of contract documents, issuance of clarifying addenda during bidding, review of bids, answering contractor RFIs during construction, monthly site visits, review of pay requests, and preparation of Record Drawings upon project completion. Services also included the design and integration of a SCADA system to monitor and control the function of the Melinda Tank Water Booster Pumping Station. <b>Project Status: Ongoing</b>	Town of Altavista, VA Tom Fore 434.369.5001 ext. 161 twfore@altavistava.gov
<b>The Omni Homestead Resort - Route 220 Waterline Replacement; Hot Springs, VA</b>	Survey and design of approximately 17,000 LF of 12" diameter waterline and associated appurtenances. The project extends along Route 220, the main corridor in the area, which is congested with utilities. The project's purpose is to replace the existing waterline that is 100 years old. Design services also include coordination with VDOT for a Land Use Permit, preparation of Erosion and Sediment Control plans, and creation of a Stormwater Pollution Prevention Plan (SWPPP). <b>Project Status: Ongoing</b>	The Homestead L.C. d/b/a The Omni Homestead Resort Clint Gulick 214.283.8507 Clint.Gulick@Omnihotels.com



Project Name & Location	Nature of Firm's Responsibility	Owner's Name and Address
<b>VES Road Waterline Replacement; Lynchburg, VA</b>	The purpose of this project was to replace old and undersized 2" water main and provide a loop in the City of Lynchburg's water distribution system along VES Road. The upgrade/replacement of the water main to 8" pipe was necessary to provide adequate fire flows, as determined by the City. Mattern & Craig was responsible for providing full right-of-way width topographic survey along VES Road (approx. 2,700 feet), design of replacement 8" water main, plan production, engineer's opinion of probable construction costs, water line stakeout, and as-built survey of the constructed water line. The design and plans were prepared for use by the City with their on-call contractors. <b>Project Status: Ongoing</b>	City of Lynchburg, VA Nieman Pest, EIT 434.455.4079 434.401.2841 (Cell) epiphany.soward@lynchburgva.gov
<b>WVWA Waterline Replacement Hollins to Botetourt Botetourt County, VA</b>	The purpose of this project was to increase the capacity of the Western Virginia Water Authority (WVWA) water system to allow for greater transmission of potable water to the Botetourt County service area. Mattern & Craig was responsible for the survey and design of a 12" waterline upgrade to replace an undersized existing 8" waterline. The survey included approximately 1,000 linear feet of westbound Route 11/Williamson Road and approximately 300 linear feet of the full roadway width of Reservoir Road. The design included development of the plan and profile details of the 12" replacement waterline, connection to the existing water system, interconnection of an existing 4" waterline to complete a pressure zone loop, and preparation of the project manual/specifications. The design also included a 300 linear foot section 24" waterline that was constructed in parallel to the 12" waterline as part of a water transmission main upgrade to the WVWA water system to further increase transmission of potable water to the Botetourt County service area. <b>Project Status: Ongoing</b>	West Virginia Water Authority Greg Taylor, PE, Eng. PM PH: 540.283.2992 Cell: 540.745.9152 gregory.taylor@westernvawater.org
<b>HDR Bristol Rte 11 Widening West Bristol, VA</b>	Mattern & Craig assisted HDR Engineering by preparing relocation plans and special provisions for the water and sewer facilities owned by Bristol Virginia Utilities (BVU), which may conflict with the proposed roadway construction. The project is a road widening construction project for Route 11 located in the City of Bristol, extending from Alexis Drive approximately 1,500 feet to the east. <b>Project Status: Ongoing</b>	HDR Engineering, Inc. Chris Eggleston, PE 540.278.2405 chris.eggleston@hdrinc.com
<b>First Utility District Waterline PER Church Hill, TN</b>	Prepared a PER to investigate the need and feasibility of installing a new waterline beginning at First Utility District's Water Treatment Plant and running approximately 6 miles along US 11W and terminating at a connection point with FUD's existing water system near the intersection of Main St. and Phipps Bend Road to allow for providing a minimum of an additional 500,000 GPD to the Phipps Bend Industrial Park. The PER also investigated the feasibility of a new approximately one-mile waterline to serve Cardinal Glass on AFG Road to provide adequate flow for operations and reliability to address Cardinal Glass water demands currently being served by an aged on-site water treatment facility. PER was completed to meet current Rural Development standards for future funding applications. <b>Project Status: Ongoing</b>	First Utility District Jeremy Jones General Manager 423.357.7511 jjones@fudhc.com



Project Name & Location	Nature of Firm's Responsibility	Owner's Name and Address
<b>Installation of Mechanical Screens for Rogersville WWTP; Rogersville, TN</b>	Provided services for the installation of mechanical screens with washer/compactor at the headworks of the Rogersville Wastewater Treatment Plant in Rogersville, TN. Services included: design, permitting, bidding, construction administration, and part-time resident project representation. The project was funded by CDBG. <b>Project Status: Ongoing</b>	Town of Rogersville, TN Glenn Hutchens City Recorder 423-272-7497 toro1@chartertn.net
<b>Ross Circle Sewer Line; Rogersville, TN</b>	Provided survey, design, permitting (including TDOT ROW permit and TDEC approvals), CEI, and construction administration services for the construction of approximately 1,000 linear feet of 8" sewer line along US-11W and Rose Circle in Rogersville, TN, for the Town of Rogersville Wastewater Department. <b>Project Status: Ongoing</b>	Town of Rogersville, TN Glenn Hutchens City Recorder 423-272-7497 toro1@chartertn.net
<b>Pound Interceptor Replacement Pound, VA</b>	Survey and design for the relocation/replacement of approximately 15,700 LF of existing sewer interceptor previously constructed within the Pound River. The project was designed and constructed in three separate phases to keep the total construction price within the bonding limits of local and regional contractors. Phase 2 included a lift station to keep the new line from becoming extremely deep due to the extreme flatness of the river. Services included permitting, easement document preparation, and construction engineering & inspection (CEI). The project was funded in part with DEQ CWSRF funds and in part with CDBG funds. <b>Project Status: Ongoing</b>	Wise County PSA Cody McElroy Executive Director 276.679.1263 cmcelroy@wisecountypsa.org
<b>Garage Pump Station and Force Main Replacement; Bluff City, TN</b>	Prepared preliminary letter report with exhibits and cost estimates, field surveys, and prepared plans and specifications for replacing an existing 85 GPM pump station with new duplex grinder submersibles and approximately 2,000 LF 2" Force Main. The project included the preparation of a Norfolk Southern Rail Permit for the Force Main crossing of rail. <b>Project Status: Ongoing</b>	Town of Bluff City, TN Jeff Broyles, Mayor 423.538.7144 jbroyles@bluffcitytn.gov
<b>Exit 19 Force Main Improvements; Abingdon, VA</b>	Completion of contract documents for the relocation of approximately 2,460 LF of the existing 4" force main serving the Spring Valley Lift Station in the Town of Abingdon, VA, in conjunction with pending VDOT Exit 19 Interchange improvements and a force main relocation along the revised Empire Drive alignment to US 11 (Main Street) with that project. Contract documents were completed in coordination with the adjoining VDOT improvements. Assisted with a funding application to VADEQ for American Rescue Plan Act (ARPA) funds. <b>Project Status: Ongoing</b>	Town of Abingdon, VA John Dew Director of Public Works 276-628-3167 jdew@abingdon-va.gov
<b>Sanitary Sewer Replacement Berkley Rd. &amp; King St.; Roanoke, VA</b>	Survey and design approximately 2,300 LF of new 18" sanitary sewer to replace existing undersized 12" diameter sanitary sewer. Services also included the preparation of a JPA for a stream crossing, easement plat preparation, and the development of maintenance of traffic plans. <b>Project Status: Ongoing</b>	Western VA Water Authority Will Bulloss, P.E. 540.283.2933 will.bulloss@westernvawater.org





Project Name & Location	Nature of Firm's Responsibility	Owner's Name and Address
<b>I-81 Program Support Services</b>	Supported HDR with providing professional engineering services and support services on the interstate, primary, urban, and secondary road, bridge, structures, and related infrastructure projects during the planning, development, pre-award, and post-award phases for projects to be procured and administered through the I-81 Corridor Improvement Program. Primary services provided by M&C may include Utilities, Surveying, Infrastructure Coordination. Additional services that may be provided by Mattern & Craig may include Traffic Engineering, Roadway Studies and Design, Structural and Bridge Engineering, and Hydraulic Studies and Design. <b>Project Status: Ongoing</b>	HDR Engineering, Inc. Kevin Reichert, Project Manager 804.799.6891 kevin.reichert@hdrinc.com
<b>Austinville Sewer System Upgrades; Wythe County, VA</b>	M&C performed the study, funding applications, survey, design, and construction administration for the replacement/rehabilitation of approximately 2,700 lf of gravity sanitary sewer, and minor improvements to an existing 20 000 gpd trickling filter wastewater treatment plant. Services included Resident Project Representation and easement preparation. The project was funded by DEQ Revolving Loan Funds. <b>Project Status: Ongoing</b>	County of Wythe, VA Johnny Kincer, County Engineer 276-637-4544 dtcrisp@wytheco.org
<b>Melrose Streetscape - Water/Sewer Replacements; Roanoke, VA</b>	Design approximately 1,000 LF of 12" diameter sanitary sewer and 1,000 LF of 8" diameter waterline as part of a streetscape project. The sanitary sewer replacement combined two parallel sewers constructed of old terracotta with brick manholes. Design services included the presentation of Maintenance of Traffic (MOT) plans due to the urban congestion in the project area. <b>Project Status: Completed 2021</b>	Western Virginia Water Authority Greg Taylor, Engineering Project Manager 540.853.5700 greg.taylor@westernvawater.org
<b>John Reed Assisted Living WWTP Study; Limestone, TN</b>	Evaluated alternatives, with cost estimates, for the replacement and upsizing of an existing 5,000 GPD packaged extended wastewater treatment plant, including non-point discharge options to service an assisted living facility. <b>Project Status: Completed 2021</b>	Free Will Baptist Ministries, Inc. Rick Crum Facilities Manager 423.470.2341 rcrum@fwbfbm.com
<b>Exit 19 FM Improvements; Abingdon, VA</b>	Completion of contract documents for the relocation of approximately 975 LF of existing 4" force main serving the Spring Valley Lift Station in the Town of Abingdon, VA, along with pending VDOT Exit 19 Interchange improvements. Contract documents were completed within ten (10) days and in standard VDOT format for plans, items, notes, etc., for the work to be included in the VDOT Contract for interchange improvements in June 2020. <b>Project Status: Completed 2020</b>	Town of Abingdon, VA John Dew Director of Public Works 276-628-3167 jdew@abingdon-va.gov
<b>VDOT Utilities - Route 23; Wise County, VA</b>	Designed approximately 2,000 LF of 8" diameter waterline and 1,000 LF of sanitary sewer line in conflict with roadway widening features (grading, storm drain, alignment) on a VDOT roadway project. The project also included the relocation design of 700 LF of 6" sanitary sewer force main along with water/sewer appurtenances such as valves, meters, manholes, and service connections. <b>Project Status: Completed 2020</b>	Michael Baker Jr., Inc. Jeremy Dow 757.681.5455 jdow@mbakerintl.com
<b>VDOT Utilities - Exit 19; Washington County, VA</b>	Provided design for approximately 2,500 LF of 6" and 16" waterline for roadway realignment/interchange improvement project design, also included crossings of interchange ramps (by Bore & Jack) and sequence of construction planning to keep existing waterlines in service. <b>Project Status: Completed 2020</b>	Michael Baker Jr., Inc. Jeremy Dow 757.681.5455 jdow@mbakerintl.com



Project Name & Location	Nature of Firm's Responsibility	Owner's Name and Address
<b>Surgoinville Utility District Water - Phipps Bend Water System Improvements; Surgoinville, TN</b>	Tasks included revising the required funding application PER titled "2018 Infrastructure Improvements for the Phipps Bend Industrial Park" to address water infrastructure needs within the Industrial Park and quantify associated costs. Services also included surveying and designing approximately 900' of new 12" waterline and related appurtenances, compiling construction bid documents, bidding services, construction administration, and resident project inspection. The project was funded by Rural Development (RD). <b>Project Status: Completed 2020</b>	Surgoinville Utility District Rita Dykes, General Mgr 423.345.3187 surgoinville@bellsouth.net
<b>VDOT Utilities - Route 58 Bridge; Washington County, VA</b>	Provided design for approximately 5,100 LF of 6"-12" diameter waterline and 400 LF of 8" sanitary sewer in conflict with earthwork cuts/fills and storm drainage on a major roadway widening project. Work included significant coordination with an ongoing waterline replacement project off-site to prevent future utility conflicts. <b>Project Status: Completed 2020</b>	Michael Baker Jr., Inc. Jeremy Dow 757.681.5455 jdow@mbakerintl.com
<b>Sewer Replacements 13th St.; Roanoke, VA</b>	Provided design services for a 1,300 LF of 8-12" diameter sewer as part of a VDOT Roadway Improvements project. <b>Project Status: Completed 2020</b>	Western VA Water Authority Will Bulloss, P.E. 540.283.2933 will.bulloss@westernvawater.org
<b>VDOT Utilities - 13th Street; Roanoke, VA</b>	Provided utility relocation design services for water and sewer replacements where utility conflicts exist between roadway construction features, including storm drainage facilities and earthwork cuts/fills. The design included the relocation of approximately 500 LF of 8" and 12" diameter sanitary sewer and approximately 2,100 LF of 4", 6", 8", and 4" diameter waterlines. Water and sewer design was performed to conform to the Western Virginia Water Authority regional standards. <b>Project Status: Completed 2020</b>	Michael Baker Jr., Inc. Jeremy Dow 757.681.5455 jdow@mbakerintl.com
<b>Sewer Extension - Industrial Park; Rocky Mt., VA</b>	Survey and design approximately 875 lf of sanitary sewer extension in the Franklin County & Rocky Mount Industrial Park. The extension serves a 45-acre parcel within the Industrial Park that the Town subdivided and developed. Services included survey, design, and minor construction administration services. Construction of the sanitary sewer was added to an existing Town construction service with the contractor who performed site grading activities. <b>Project Status: Completed 2019</b>	Town of Rocky Mount, VA Matt Hankins Asst. Town Manager 540.903.0907 mhankins@rockymountva.org
<b>Utilities Relocation Preliminary Services SR 91; Elizabethton, TN</b>	Provided engineering design and completion of contract documents for inclusion within TDOT Roadway Design documents ("Move-In") for the SR 91 Roadway Improvements project in Elizabethton, TN. Provided preliminary services and evaluations before TDOT requested "Rainbow Plans" for the utility relocations; subsequently provided water and sewer relocation plans, profiles, and details in TDOT design format. <b>Project Status: Completed 2019</b>	City of Elizabethton, TN Johann Coetzee General Mgr., Water Resources 423.297.9128 jcoetzee@cityofelizabethton.org



# Section 4

## Familiarity with Federal Funding Requirements

With over 40 years of funding experience, M&C is well-qualified to provide the necessary administrative services to comply with the grant requirements of State and Federal funding agencies. We have had significant success throughout Virginia, East Tennessee, and North Carolina, assisting our clients in obtaining and administering grant and loan funding from various agencies. We consider the funding process part of our services to alleviate the burden on our clients. We have gained personal contacts and insight into the requirements of all State and Federal funding agencies. Each funding agency has additional procedures to be followed during the construction process. We assist our clients by coordinating these requirements and by shifting as much of this responsibility away from our clients as possible. The following chart reflects a portion of funded projects that M&C has completed:



RECENT M&C GRANT DESIGN & CONSTRUCTION PROJECTS
<b>Lee Street Sidewalk; Summerville, SC</b> - Performed the design 2,100 ft. of new sidewalk along Lee Street in Summerville, SC. Services included stormwater design, traffic management, and utility coordination. Services by others included survey and environmental documentation provided by Sabine & Waters. <b>This project was funded by a CDBG Grant.</b>
<b>Uptown/Little Harlem Revitalization; St. George, SC</b> - Developed proposed improvements along NW Railroad Avenue that included the construction of guardrail and the design and installation of drainage system infrastructure and improvements. The project included coordination with Norfolk Southern Railroad. <b>This project was funded by a CDBG Grant.</b>
<b>Rogersville WWTP Influent Screens; Rogersville, TN</b> - Provided services for the installation of mechanical screens with washer/compactor at the headworks of the Rogersville Wastewater Treatment Plant in Rogersville, TN. Services included: design, permitting, bidding, construction administration, and part-time resident project representation. <b>The project was funded by CDBG.</b>
<b>Rogersville Water Rate Study; Rogersville, TN</b> - Prepared a water rate study, following guidelines set forth by the Water and Wastewater Financing Board and the Town of Rogersville, TN, including any appropriate figures, tables, worksheets, etc. Services included investigations and recommendations of revised utility rates, Various modifications to existing Town/Utility policies, and various meetings to present the compiled report to Town/Utility staff.
<b>Rogersville South Armstrong Road Utilities; Rogersville, TN</b> - Provided preliminary and final design services for the required relocations of waterlines and sanitary sewer lines in conflict with the TDOT-funded replacement of South Armstrong Road Bridge over Crockett Creek in Rogersville, TN. Services included: preliminary design and "A Date Package" submittal to TDOT, final design and "B Date Package" submittal to TDOT, and Construction Engineering Inspection during the construction of the relocated facilities.
<b>Rogersville WWTP Waterline Extension; Rogersville, TN</b> - Completed survey and design of approximately 2,000 LF of waterline replacement and extension for the Rogersville Water Department. Services included surveying, preparing standard utility construction specifications, and submittal of appropriate items to TDEC for review and permitting approval.
<b>Phipps Bend Water System Improvements; Sargoinsville, TN</b> - Completed tasks, including revising the required funding application PER titled "2018 Infrastructure Improvements for the Phipps Bend Industrial Park" to address water infrastructure needs within the Industrial Park and quantify associated costs. Services also included surveying and designing approximately 900' of new 12" waterline and related appurtenances, compiling construction bid documents, bidding services, construction administration, and resident project inspection. <b>Project funded by Rural Development (RD).</b>
<b>Phipps Bend Water Storage Tank Rehabilitation; Sargoinsville, TN</b> - Completed onsite survey services for required easements and property acquisitions and prepared bid documents for the interior and exterior cleaning and coating of an existing 750,000-gallon welded steel water storage tank. Services included bidding, construction administration, and resident project representation. <b>The project was funded through Rural Development (RD).</b>
<b>Bluff City Water &amp; Sewer Improvements; Bluff City, TN</b> - Completed survey and design for approximately 14,000 LF of waterline replacements and approximately 6,000 LF of 8" sewer line replacements for Bluff City. Services included funding procurement, permitting assistance, bidding and negotiation services, construction administration, and full-time resident project representation. <b>Project funded through Rural Development grant/loan combination.</b>
<b>Gate City Waterworks Asset Management Plan; Gate City, VA</b> - Completed an asset management plan for the Town's waterworks system that will ensure that the waterworks get the most value from each asset and have the financial resources to rehabilitate and replace assets when necessary. The plan will also include developing a plan to reduce costs while increasing the efficiency and reliability of waterworks assets. <b>The project was funded by a VDH grant.</b>
<b>Preliminary Engineering Report (PER) 2022 Water Systems Improvements; Hawkins Co., TN</b> - Prepared a PER to investigate the need and feasibility of installing a new waterline beginning at First Utility District's Water Treatment Plant and running approximately 6 miles along US 11W and terminating at a connection point with FUD's existing water system near the intersection of Main St. and Phipps Bend Road to allow for providing a minimum of an additional 500,000 GPD to the Phipps Bend Industrial



Park. The PER also investigated the feasibility of a new approximately one-mile waterline to serve Cardinal Glass on AFG Road to provide adequate flow for operations and reliability to address Cardinal Glass water demands currently being served by an aged on-site water treatment facility. PER was **completed to meet current Rural Development standards** for future funding applications.

**Downtown Comprehensive Project; St. Paul, VA** - Designed the reconstruction of 6 Town blocks in the core downtown area of St. Paul. The project includes funding acquisition and coordination with VDOT, VDH, and RD, as well as the inter-municipal partnership between Wise County and the Town of St. Paul for survey and design for the project area. Services included replacing approximately 2,600 LF of water and sewer infrastructure; designing new stormwater infrastructure in the project area to the Clinch River; new full-depth roadway; new sidewalks; and new curb and guttering. Additional services included funding assistance, permitting; ROW and easements, bidding; and construction engineering and inspection (CEI). **Additional funding was secured employing utility conflicts to leverage matching funds for the VDOT Revenue Sharing program: secured for St. Paul \$3 in grant funding for every Town dollar.** Services included funding assistance, permitting, right-of-way and easements, bidding, and construction engineering & inspection (CEI).

**Hawthorne Drive Utility Improvements; Norton, VA** - Provided survey, preliminary design, and final design services to relocate approximately 1,100' of 10" waterline and 1,100' of 12" sanitary sewer line to manageable depths for the City of Norton's maintenance purposes. The existing lines were over 20' in depth. The improvements were located at the intersection of Hawthorne Drive and US Alt 58 in Norton, VA. Services also included coordination with applicable agencies for permitting approvals (VDH, DEQ, VDOT). Construction included jack and boring both utilities under Alt. 58 due to VDOT requirements.

**Sanitary Sewer Asset Management Plan; Gate City, VA** - Completed an asset management plan for the Town's sanitary sewer system that will ensure that the sanitary sewer Utility gets the most value from each asset and have the financial resources to rehabilitate and replace assets when necessary. **The project was funded with local funds and grants obtained through the Virginia Department of Environmental Quality Pilot SSES Program for Southwest Virginia.**

**Sanitary Sewer Evaluation Study & Asset Management Plan; Norton, VA** - Provided comprehensive Sanitary Sewer Evaluation Survey Services, including detailed Field Investigations and Comprehensive Report. Field Investigations included: Manhole Location/Inspections and Mapping Updates; System-wide Flow Monitoring (six locations) to establish Average Dry Daily Flows and the impacts of Wet-Weather flows upon the collection system; Smoke Testing of the complete collection system to identify defects where wet-weather flows can enter the collection system, and CCTV investigations utilizing in-house capabilities. The Report includes the identification and prioritization of Programs and/or Projects required to remediate the impacts of inflow and infiltration upon the municipal wastewater collection system, as well as an asset management plan for the City's sanitary sewer system that will ensure that the sanitary sewer utility gets the most value from each asset and have the financial resources to rehabilitate and replace assets when necessary. **All work was funded with local funds and grants obtained through the Virginia Department of Environmental Quality Pilot SSES Program for Southwest Virginia.**

**2021 Water System Upgrades; Gate City, VA** - Completed an initial Preliminary Engineering Report, designed five backup generators for Gate City's WTP and existing four pump stations, as well as the design of 2 new pump stations and backup generators at locations determined in the PER. Also included installing six master meters in various locations in Gate City's water system, along with the demolition of the old reclaim tank at the WTP. Provided site survey, property acquisition/ easement documentation, design, inspection, and construction administration services for the project. Included the completion of a Water Business Operations Plan. **The project was funded by VDH.**

**Gate City Water Treatment Plant Upgrades; Gate City, VA** - Completed survey, design, environmental documentation, bidding, construction administration, and construction engineering inspection of an upgrade of the Town's outdated commercial water meters, the SCADA system, and various building repairs (i.e., roof and doors) to reduce water loss in the Town's water system. **The project was funded by a VDH grant.**

**Water Treatment Plant Improvements/Structural Repairs; Pennington Gap, VA** - Conducted field investigations and prepared a Preliminary Engineering Report detailing recommended structural repairs to the Town's water treatment plant. Further, a funding source was procured, and design documents were prepared to address the identified structural repairs and waterproofing needs. Additional services included bidding & negotiation, construction administration, permitting, onsite inspection, and electrical design to address control wiring. **The project was funded thru Rural Development.**

**Elizabethton SR-91 Utilities Relocation; Elizabethton, TN** - Provided utility engineering design (water and sanitary sewer) and completion of contract documents for inclusion within TDOT Roadway Design Documents ("Move-In") for the S.R. 91 Roadway Improvements Project in Elizabethton, TN. Mattern & Craig provided preliminary services and evaluations before TDOT's request for "Rainbow Plans" for the utility relocations; subsequently provided water and sewer relocation plans, profiles, and details in TDOT design format and onsite construction engineering inspection during the construction of the improvements/relocations.

**Waynesboro Industrial Park; Waynesboro, VA** - M&C provided the topographic surveys & design for 5,000 LF, with curb and gutter, 2,400 LF of 12" sanitary sewer, and 1,800 LF of 8" waterline for the Waynesboro Industrial Park in Waynesboro, VA. **This project was financed by EDA.** Plans completed for submittal within 45 working days.



<p><b>Downtown Revitalization; Pound, VA</b> - M&amp;C provided a survey and design of downtown revitalization, including building facades, roadways, sidewalks, ornamental street lighting, and infrastructures in Pound, VA. Services included permits, easements, plats, and resident project representation. <b>This project was funded through CDBG, VDH, VDOT (Enhancement), EDA, and VA Tobacco Commission.</b></p>
<p><b>New Wastewater Treatment Plant, Interceptor, &amp; Pumping Facilities; Rocky Mount, VA</b> Review of the proposed site, data, and future sewage treatment needs, preparation of Phase 1 preliminary study; design of a 2.0 mgd capacity facility including headworks building, grit collection, 3-channel oxidation ditch, secondary clarifiers, ultraviolet light disinfection, aerobic digesters, sludge belt press with lime feed system and control building; 4,100 LF 30" interceptor sewer; pump station with three 550-2800 GPM pumps; financial assistance; environmental assessment; plans and specs, construction administration, construction stakeout survey, and inspection. Phase I - archeological study; resident project representation; geotechnical borings on Pigg River interceptor; O&amp;M Manual. <b>Funding was by EDA and VRLF.</b> On-site pilot UV disinfection test monitoring flow, unit detention time, and lamp intensity through a modular UV unit; analysis for transmission suspended solids, and fecal coli forms were performed to fine-tune the design; pilot plant program; discharger-specific variance; construction loan/grant administration.</p>
<p><b>Bacova Regional Sewer Facilities; Bath County, VA</b> - Provided the survey and design of 17,000' of 6" sewer force main, three suction-lift pump stations, and two community gravity sewer systems (8" and 12" sewer) for a regional sewer improvement project including easement and property acquisition plats, funding assistance, construction administration, construction stakeout, and resident project representation. The project also involved the design of odor control systems for the pump stations and designing a 1.0-meter sludge dewatering press* for the wastewater treatment plant. <b>The project was funded by EDA, ARC, and VRLF.</b> (*During PER phase, all forms of sludge dewatering were evaluated, including belt press.)</p>
<p><b>Clearview Business Park; Martinsville, VA</b> - Feasibility Study; design of industrial access roadway including traffic signal, structure over Jones Creek; waterline; sanitary sewer relocation; stormwater management; site grading for three tracts; landscaping; street lighting; topographic surveys, plats; Phase I ESA; Phase I cultural resources inventory; geotechnical investigation; <b>assistance with VDOT and EDA funding applications;</b> construction stakeout; construction administration; compaction control for the 60-acre business park. Master Plan involved the development of master plan alternatives for a 70-acre industrial park, aerial topographic mapping, grant application assistance for VDOT Industrial Access Road, and EDA construction assistance.</p>
<p><b>Rives Road Industrial Park Master Plan; Martinsville, VA</b> - M&amp;C provided grant management services for <b>administering an EDA economic development grant</b> for the development of Rives Road Industrial Park in Martinsville, VA. The project involved 175 acres for master planning.</p>
<p><b>Virginia Crossroads; Staunton, VA</b> - The Virginia Crossroads project is formerly known as the New Hope Area Economic Development Project. Phase I of the infrastructure included 1,500 feet of an access road and stormwater detention. M&amp;C provided comprehensive land development engineering service to the City of Staunton for this development. Basic site development engineering services included control and topographic surveys, site layout &amp; staking plans, utility plans, grading &amp; storm drainage, and erosion control plans, and transportation design services for improvement to New Hope Road. Assisted City in the grant application. <b>The project was partially funded through VDOT Industrial Access Road (later renamed to EDA) program.</b> Phase I of the site development was completed in November 2000 for \$750,000.</p>

