

IVY CREEK INTERCEPTOR

▶ DIVISIONS 5 AND 6

BEDFORD REGIONAL WATER AUTHORITY (BRWA)

SUBMITTED BY:

GARNEY COMPANIES, INC.

4515 DALY DRIVE, SUITE K
CHANTILLY, VA 20151



IN PARTNERSHIP WITH





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BEDFORD REGIONAL WATER AUTHORITY (BRWA)

IVY CREEK INTERCEPTOR DIVISIONS 5 AND 6

APRIL 6, 2020

*Bedford Regional Water Authority
ATTN: Brian Key
1723 Falling Creek Road
Bedford, VA 24523*

Dear Mr. Key,

This project involves multiple stakeholders and seeks to achieve a variety of outcomes from the perspectives of increasing capacity and reliability, regulatory compliance, capital and O&M costs, community engagement, quality, and site safety. Garney and Wiley|Wilson have been working together in anticipation of this project to establish a team who will facilitate collaborative decision-making, maximize stakeholder buy-in, and keep the project running smoothly. Our team has served Bedford Regional Water Authority (BRWA) and worked together in a number of capacities. BRWA will benefit from our team's proven performance and partnership through these success factors:

DESIGN-BUILD COLLABORATION

Specialized expertise to excel

As your design-build team, we will integrate all services and activities into a single point-of-responsibility to successfully evaluate, design, permit, construct, and commission the Ivy Creek Interceptor and Route 460 Pump Station (referred to herein as the Ivy Creek Interceptor). Garney and Wiley|Wilson's design-build approach creates a partnership with BRWA to jointly make decisions in the best interest of stakeholders and the project. We partner, develop input, and lead the team toward making a decision together. Having completed 394 design-build projects, our key team members bring the expertise to collaborate and sequence this project to get construction started as soon as possible.

FORWARD-THINKING APPROACH AND EFFICIENT DESIGN

An approach that achieves your short and long-term needs

Our team has developed a detailed approach demonstrating our strong insight and ability to deliver smart solutions. Our team's familiarity with the project through our previous work designing the City of Lynchburg's interceptor system, including the existing Ivy Creek Interceptor; as well as our history working with BRWA, including the Ivy Creek Preliminary Engineering Report (PER); and knowledge of working in the area has resulted in our development of a wide variety of high-value ideas. The Garney and Wiley|Wilson team understands that constructability and value engineering evaluation are intrinsic and continuously performed in the design-build setting. With continued commitment to BRWA, our team has been proactive in exploring additional value engineering opportunities to optimize capacity, alignment, and permitting requirements, while reducing the overall construction cost. BRWA will benefit from reduced operations and maintenance requirements associated with the Lake Vista Pump Station (LVPS), and your customers will benefit from a wastewater interceptor that supports residential and commercial growth for the next 50+ years. The interceptor will also reduce the risk of environmental impact by replacing a complex pump station with a simple gravity sewer.



PROVEN TEAM PERFORMANCE

#1

TOP 400
CONTRACTORS —
WATER/SEWER/
WASTE (ENR 2019)

#49

TOP MID-ATLANTIC DESIGN
FIRMS (ENR 2019)

3,214,899

MAN-HOURS SELF-
PERFORMED IN 2019,
MAINTAINING A 0.55 EMR

100+

MILES OF SEWER LINES IN
CENTRAL VIRGINIA

195

GRAVITY SEWER PROJECTS
NATIONALLY

349

DESIGN-BUILD PROJECTS

26

PROJECTS FOR BEDFORD
REGIONAL WATER
AUTHORITY

PROVEN PARTNERSHIP

Fostering an effective partnership among all stakeholders

We understand the critical nature of this project to BRWA and the community, and know time and commitment are vital. Our specialized experience in water and wastewater infrastructure is the ideal match for the needs of this project. Together, we bring an experienced local team backed by a significant depth of local resources and national experts. Our experience designing, permitting, and constructing gravity sewer pipelines will be especially critical in alleviating risk for BRWA and enhancing future operational efficiency. We are certain no other team will bring a greater depth and breadth of knowledge to this project.

The Garney and Wiley|Wilson team submits this unsolicited proposal as a personal commitment toward the success of the Ivy Creek Interceptor from notice to proceed through construction. Our team is immediately available to begin an active partnership with BRWA.

Respectfully Submitted,
Garney Companies, Inc.



Stephen P. Ford
Vice President
703.659.8490
sford@garney.com

The proprietary information identified in the Table of Contents on the following page and included in Volume 2 or financial statements are considered financial records and other information exempt from FOIA per BRWA's Public-Private Education Facilities and Infrastructure Guidelines (Policy 10.45) Section 3 Part D.1.b and D.1.c

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*With experience solely focused in the water industry,
we know what it takes to get the job done. Projects
aren't always straightforward, and you want a
partner who can think creatively and work efficiently.
You want the Garney and Wiley|Wilson team.*



SECTION A

QUALIFICATIONS AND EXPERIENCE

QUALIFICATIONS AND EXPERIENCE—PROPOSER OVERVIEW

i. Identify the legal structure of the firm or consortium of firms making the proposal. Identify the organizational structure for the project, the management approach, and how each partner and major subcontractor in the structure fits into the overall team.

DESIGN-BUILDER PROFILE

Garney is a national leader in water and wastewater construction. Since 1961, we’ve focused on building water and wastewater systems of all sizes for municipal, federal, and private clients. *We specialize in collaborative project delivery solutions, including design-build and CMAR, for clients nationwide.*

Garney has built a hard-earned reputation as a top water / wastewater contractor through unparalleled experience, quality, and safety. This is evidenced by more than a decade of top industry rankings, including relevant rankings from *Engineering-News Record (ENR)*:

GARNEY’S ENR RANKINGS (2018-2019)

#1	Top 400 Contractors – Water/Sewer/Waste
#1	Water Transmission Lines (10 Consecutive Years)
#3	Sewerage and Solid Waste
#3	Top 30 All-Environmental Firms

LEGAL STRUCTURE

Garney is a 100% employee owned company, incorporated in Missouri in 1961 and licensed to conduct business in the state of Virginia since 1988.

ABILITY TO SELF-PERFORM

Garney’s self-performance capabilities, coupled with our safety record are considerable factors that differentiate Garney from our competition. In 2019, Garney completed 3,214,899 man-hours of work. Our crews typically self-perform 70% to 90% of the work on our projects, including excavation, conveyance, and distribution pipe installation; appurtenance procurement and installation; surface restoration; testing; dewatering; and final restoration.

Garney’s ability to self-perform will be a significant factor in reducing cost, expediting the schedule, and ensuring quality and safety.

SAFETY

Safety is Garney’s number one company objective—it is a priority above all else. *Our commitment to safety is evidenced by our Experience Modification Rating (EMR) of 0.55, significantly lower than the national average of 1.00.* The EMR benchmarks workers’ compensation claims to other companies similar in size who operate in the industry. The lower the EMR, the better the safety record resulting in lower insurance premiums for our clients.

DEPTH OF RESOURCES AND OFFICE LOCATIONS

The crews and equipment for this project will be from Garney’s Mid-Atlantic operation based in the regional office in Chantilly, Virginia. At the start of construction, Garney will set up an on-site office to empower our management staff to make decisions at the field level. Garney is the largest contractor in our line of work and has a tremendous depth of resources spread across the country. Garney has staffed this project with personnel who have the availability to deliver a successful project—from project start through startup.



CORPORATE OFFICE
1333 NW Vivion Road
Kansas City, MO 64118

LOCAL OFFICE
4515 Daly Drive, Suite K
Chantilly, VA 20151

ORGANIZATIONAL STRUCTURE

As your Design-Builder, Garney will work in partnership with Wiley|Wilson as the Prime Engineer to provide BRWA with a team who brings unparalleled experience. Together, our team brings 178 years of combined experience designing and constructing water/wastewater infrastructure. This includes a history of successful project execution working together. Garney and Wiley|Wilson will be supported by specialized local firms that add extensive qualifications and experience (outlined below).

Our team is assembled around specialists assigned to each critical project task to examine project challenges from various perspectives, with each team member bringing their particular skills and expertise to the project. Our licensed design and construction professionals were selected based upon their competence, qualifications, and availability. (A team organization chart along with resumes of key personnel outlining the organizational and subcontractor structure are included within this section.)

The firms that comprise our team have collaborated in a number of capacities on pipeline projects throughout the Mid-Atlantic. Our ability to work together in a collaborative manner ensures BRWA a successful design-construction-startup process.

The Garney Team

GARNEY CONSTRUCTION DESIGN-BUILDER ▶ 59 years of experience specializing solely in self-performing construction of water/wastewater utility infrastructure, including 1,083 pipeline projects valued at \$6.3 billion ▶ Ability to self-perform construction reduces cost and schedule impacts ▶ Executed 414 collaborative delivery projects, including 199 design-build projects valued at \$2.2 billion ▶ #3 Contractor in Sewerage/Solid Waste by <i>Engineering News Record</i> (ENR 2019)	WILEY WILSON PRIME ENGINEER ▶ 118 years in business with extensive experience serving local service authorities ▶ Active Engineering Services Contracts with Bedford Regional Water Authority since 2005 ▶ Unmatched local knowledge and resources to provide long-term project support ▶ Design and construction administration of more than 26 miles of 18” to 84” interceptors in the Lynchburg region over the past 40 years
ECS MID-ATLANTIC ENVIRONMENTAL ▶ Premier provider of environmental, geotechnical, construction materials testing, and facilities engineering services across the Mid-Atlantic ▶ Founded in 1988, ECS has grown to 1,700 staff across 60 office locations ▶ Strong relationship with Wiley Wilson and familiarity with BRWA due to their work on the Ivy Creek Interceptor PER ▶ #81 by <i>Engineering News Record</i> Top 500 Design Firms, and #177 in Top 200 Environmental Firms	ERM & ASSOCIATES EASEMENT ACQUISITION ▶ Full-service land and easement acquisition company acquiring property rights for customers since 1973 ▶ Experience assisting Wiley Wilson on similar projects, including recent work on an area interceptor project ▶ Expertise in utility easement acquisition, right of way acquisition, land acquisition

MANAGEMENT APPROACH

As Design-Builder, Garney will be the signatory to the contract and will oversee all efforts of the team and the project throughout design and construction. This will include management of all team partners, in addition to self-performing the majority of construction activities. No other firms are included as partners in the consortium. This will ensure BRWA receives a single point-of-responsibility to successfully evaluate, design, permit, construct, and commission the Ivy Creek Interceptor. As Prime Engineer, Wiley|Wilson will lead the design effort. Garney and Wiley|Wilson will be supported by reputable specialty subconsultants and subcontractors (*as shown on the team organization chart within this section or further identified through a qualified process*). Roles and responsibilities for the key functions of the prime firms include:

KEY FUNCTIONS OF PRIME FIRMS



GARNEY, DESIGN-BUILDER

Design-Build Management • Team Coordination • VDOT, Land Disturbance and Blasting Permitting • Value Engineering • Constructability Reviews • Development of GMP • Project Scheduling • Budgeting • Material Procurement • Self-Performing Construction • Startup and Commissioning • Contract Scope and Price • VDOT • Land Disturbance • Blast Permitting



WILEY| WILSON, PRIME ENGINEER

Design Document Preparation • Design QA/QC • Design Scheduling • DEQ CTC/CTO Permitting • Environmental • Construction Administration • Easement and Land Acquisition • Wetland Jurisdictional Determination • ACOE Nationwide 12 Permitting

"All I must say about your company is 'great job.' Your crews were efficient, working in all sorts of weather, worked long hours, and were very courteous to everyone along the route. I am not a person with any authority, but I would highly recommend your company if I ever have the opportunity."
- Danny Holdren (Property Owner in Bedford, VA)

QUALIFICATIONS AND EXPERIENCE—EXPERIENCE AND KEY PRINCIPALS

ii. Describe the experience of the firm or consortium of firms making the proposal and the key principals involved in the proposed project, including experience with projects of comparable size and complexity. Describe the length of time in business, business experience, public sector experience, and other engagements of the firm or consortium of firms. Include the identity of any firms that will provide design, construction, completion guarantees and warranties, and a description of such guarantees and warranties.

KEY FIRM BUSINESS PROFILES

GARNEY

BUSINESS EXPERIENCE AND TIME IN BUSINESS

Garney Companies, Inc. (Garney) is a 100% employee owned company incorporated in Missouri in 1961. We specialize in self-performing construction of water and wastewater infrastructure. With 1,500+ employee-owners across 18 offices nationwide, our crews are able to answer the call no matter where a project is located. We work for municipalities, the federal government, industrial corporations, and private developers.

PUBLIC SECTOR EXPERIENCE

Garney has been working in the state of Virginia since 1988 and currently holds good standing with the state (license no.: 2705122417). Some area clients we are currently serving include Cities of Harrisonburg, Leesburg, and Suffolk, and Fairfax, Henrico, and Chesterfield Counties. Garney is licensed to perform work in 35 states and has served hundreds of municipalities across the nation. At present, 85% of our clients are repeat business. This is a testament to Garney's reputation—we pride ourselves on building safe, quality projects that provide safe drinking water and transport wastewater to the communities that we live and work in every day.

EXPERIENCE WITH BRWA

In May 2017, Garney completed the Smith Mountain Lake WTP Pipelines - Contracts A-E as a subcontractor to Overland Contracting. For this design-build project, Garney successfully installed 29 miles of 16" and 18" waterline, and 46 jack and bores totaling 2,710 LF. Similar to the Ivy Creek Interceptor, trenchless crossings spanned three creek crossings and involved significant rock excavation. Garney also interfaced with more than 60 property owners along the route and managed a significant maintenance of traffic effort. The schedule was a challenge from the start, as the required easements were not all obtained on time. While easement acquisition was not in Garney's contract, Garney rose to the challenge by providing additional pipe crews and equipment to ensure BRWA's May 2017 deadline was met. Garney has proven our ability to work in collaboration with BRWA and will leverage this experience to provide a collaborative atmosphere with BRWA and Wiley|Wilson through every step of the design-build process.

WILEY|WILSON

BUSINESS EXPERIENCE AND TIME IN BUSINESS

Wiley|Wilson was founded by Edgar C. Wiley as a consulting engineering firm in 1901. In 1913, E. John F. Wilson joined Mr. Wiley and the partnership of Wiley|Wilson was formed. The partnership expanded and grew into a multi-disciplined architectural, engineering, and planning firm serving a solid base of industrial, commercial, and governmental clients. The firm was incorporated in Virginia in 1972. In 2000, Wiley|Wilson became an employee owned firm and is now 100% employee owned. Today, Wiley|Wilson has more than 170 employees in five offices, with three in Virginia: Lynchburg, Richmond, and Alexandria; one in Atlanta, Georgia; and one in Raleigh, North Carolina. The staff diversity has evolved over the last 118 years from a single consulting mechanical engineer to a diversified staff representing architecture, multi-discipline engineering, and construction administration. We are a regional company that works across the country and around the world.

PUBLIC SECTOR EXPERIENCE

Having completed many water and wastewater treatment, collection, distribution, and pumping facilities throughout the Commonwealth of Virginia and beyond, Wiley|Wilson has been working with many local government and service authority clients for over 50 years. Wiley|Wilson understands that these relationships are based on helping clients provide great service to their customers.

EXPERIENCE WITH BRWA

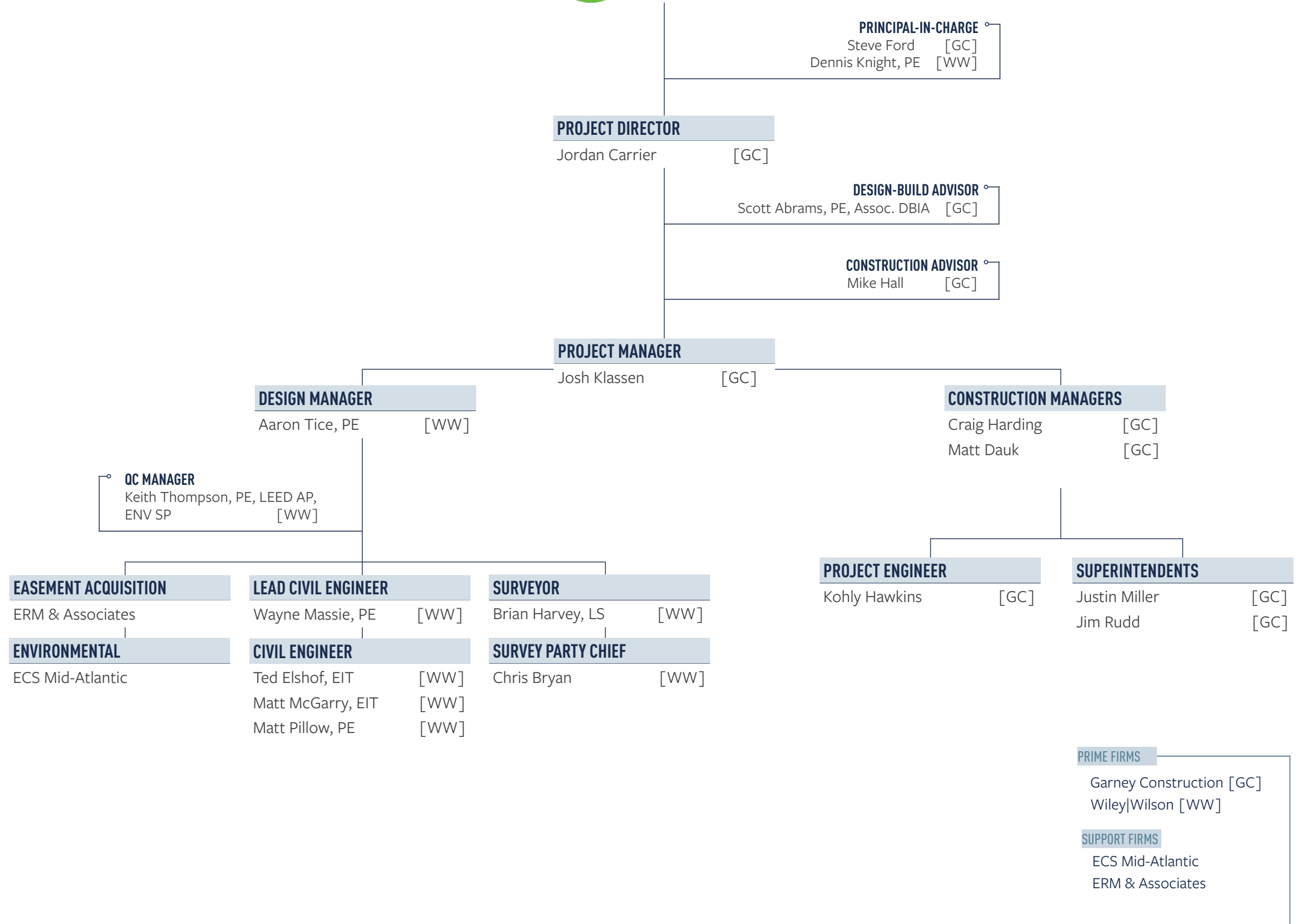
Wiley|Wilson has a strong relationship with Bedford County, the Town of Bedford, and the Authority, having assisted them with various needs over the past 15 years. Wiley|Wilson has held an active Engineering Services Contract with BRWA since 2005, performing design tasks on various BRWA water and sewer improvements, including the Goode/Casaloma Waterline Extension, the Moneta Sewer Extension, and the Homestead Drive Sewer Replacement. Most recently, Wiley|Wilson has been working closely with BRWA on the PER for the Ivy Creek Interceptor. This study has given our team a strong basis to work from to develop the design for this project.

TEAM ORGANIZATION

KEY TEAM MEMBERS DRIVING SUCCESS.

Garney will foster enduring relationships with BRWA by committing our best resources, including those who know the project's challenges well to drive success. These key team members are highly skilled design-build professionals with deep local roots.

We understand the critical nature of this project and know resources and commitment are vital. With our bench of national and local resources, we are confident we can complete this project by your completion goal.





STEVE FORD

Principal-in-Charge

Garney Experience: 30 years

Industry Experience: 41 years

Education

University of Missouri - Rolla, B.S.
in Civil Engineering

Certifications & Training

OSHA 10-Hour

OSHA Competent Person

Professional Summary

Steve is responsible for the organization and management of Garney's Mid-South and Mid-Atlantic based operations. He successfully estimates, bids, and manages the operations for multiple projects in these regions. These projects include major water and wastewater pipeline and facilities construction and rehabilitation. Since 1979, Steve has managed major infrastructure projects throughout the United States and brings tremendous leadership to ensure customer satisfaction.

PROJECT EXPERIENCE

SMITH MOUNTAIN LAKE WTP PIPELINES - CONTRACTS A, B, C, D, & E (DESIGN-BUILD)

Bedford Regional Water Authority / \$14,956,193

Principal-in-Charge. Included 153,120 LF of 16" and 18" PVC and DIP waterline, 46 jack and bores, and three creek crossings by jack and bore through rock.

LOGAN CSO INTERCEPTOR PROJECT

Louisville & Jefferson County Metropolitan Sewer District / \$32,602,241

Principal-in-Charge. Installation of 10,000 LF of combined gravity sewer ranging from 24" to 96" in diameter to convey flow from 12 combined sewer overflows to a future basin site, junction structures, diversion structures, control vaults, and electrical utility services.

LEXINGTON AND PAYNE CSO INTERCEPTOR

Louisville & Jefferson County Metropolitan Sewer District / \$23,344,747

Principal-in-Charge. Installation of 4,339 LF of 36" to 102" PCCP gravity sewer pipe, 1,124 LF of 15" to 60" DIP and PVC sanitary gravity connective pipe for six junction structures, seven control and diversion structures, a vehicle access ramp, erosion and sediment control, channel and pavement restoration, and electrical utility services.

UPHAM BROOK TRUNK SEWER

County of Henrico, VA / \$22,989,251

Principal-in-Charge. Installation of 13,760 LF of 48", 54", and 66" CCFRPM gravity sewer, two CIP diversion structures installed 53 vertical feet, five 72" microtunnels including a CSX railroad crossing, a 90" hand tunnel, and rehabilitation of existing water and sewer utilities. This required 70 MGD of bypass pumping, clearing, vehicular stream crossings, wetland impacts, stream bank stabilization, dewatering, sheet and H-piling, traffic control, and pavement restoration.

DOWNTOWN WATER & WASTEWATER IMPROVEMENTS**Knoxville Utilities Board / \$17,835,930**

Principal-in-Charge. Installation of 20,526 LF of 30" to 8" DIP waterlines, 4,056 LF of 12" to 8" DIP and PVC sewer line, 900 LF of 12" to 8" CIPP sewer line, 100 manholes, water and sewer service connections, and electric duct banks in a busy downtown area.

COLCHESTER INTERCEPTOR SYSTEM IMPROVEMENTS**Prince William County Service Authority / \$11,026,926**

Principal-in-Charge. Installation of 5,235 LF of 36" PVC sanitary sewer force main, 36" line stop with a bypass, replacement of 2,132 LF of 54" CCFRPM gravity sewer via open cut and microtunneling, manholes and appurtenances, 1,687 LF of 42" to 8" sanitary gravity sewer, and construction of a submersible pump station.

DOWNTOWN WATER & SEWER SYSTEM**Henderson Water Utility / \$9,771,241**

Principal-in-Charge. Replacement and renovation of 22,000 LF of 8" to 18" sanitary sewer and 14,000 LF of 8" to 20" ductile iron waterlines. Challenges included extensive traffic control, allowing access to local businesses during construction, keeping existing services active, and dealing with unknown utilities.

MILL CREEK REPLACEMENT OF GRAVITY SEWER**Metro Water Services / \$7,781,387**

Principal-in-Charge. Replacement of an existing 30" PVC gravity sewer line with the installation of 23,347 LF of 48" and 36" HOBAS gravity sewer line at an average depth of 17 feet, as well as construction of 69 manholes up to 12' in diameter, six creek crossings, four tributary crossings, three open cut road crossings, and 240 LF of auger jack and bore under a roadway.

48-INCH AND 54-INCH GRAVITY SEWER AIRWAYS BOULEVARD TO HIGHWAY 45 SOUTH**Jackson Energy Authority / \$7,695,047**

Principal-in-Charge. Installation of 6,400 LF of 54" and 4,950 LF of 48" DIP with Protecto 401 lining, 10 concrete precast manholes, removal of 110 LF of existing 48" RCP sewer line inside a 72" tunnel under a CSX railroad crossing and the installation of 54" CIP.

HAYFIELD ROAD PIPE CONVEYANCE SYSTEM**Fairfax County, VA / \$6,956,900**

Principal-in-Charge. Installation of 1,196 LF of 7' x 4' box culvert including two 9' x 4' junction boxes, 320 LF of 2" to 8" DIP and HDPE waterlines, 2,034 LF of 48" RCP and 2,002 LF of 8" PVC gravity sewer including nine sewer manholes, four storm sewer connections ranging from 15" to 36", 14 storm sewer manholes, a stormwater structure.

BRICK CHURCH PIKE PIPE IMPROVEMENTS**Metro Water Services / \$5,451,350**

Estimator. Installation of gravity sewer including 9,000 LF of 6" to 27" PVC, 1,910 LF of 12" to 30" DIP, 125 LF of 27" CCFRPM pipe, 53 manholes, and 6" PVC sewer service reconnections, steel casing auger bore totaling 735 LF ranging from 24" to 42", 925 LF of 8" HDPE installed via sliplining, cementitious lining of manholes, diversion structure, sewer bypass pumping, stream crossings, wetlands, and rock excavation.

FIVE MILE CREEK INTERCEPTOR SEWER**City of Franklin, TN / \$4,736,495**

Senior Manager. Installation of 12,550 LF of 30" gravity sewer, 2,450 LF of 24" gravity sewer, 1,830 LF of 18" PVC gravity sewer, 310 LF of 12" PVC gravity sewer, 150 LF of 8" PVC gravity sewer, 17,250 LF of 8" diameter PVC reclaimed water main, 58 of 5' diameter manholes, 13 4' diameter manholes, three side road auger bores, one auger bore, and six creek crossings ranging in pipe diameter 8" to 30".

NORTHEAST BOUNDARY TUNNEL PROJECT (DESIGN-BUILD)**District of Columbia Water and Sewer Authority / \$4,453,313**

Principal-in-Charge. Installation of 80 LF of 42" DIP sewer force main pipe requiring a bypass of the current line limited to 30 days and the installation of eleven sheet piles for support of the new pipe. This compressed schedule required a 24-hour, 6-day week construction operation while the bypass was enabled.

HILL TOP ENERGY CENTER WATER INTAKE AND DISCHARGE SYSTEM (DESIGN-BUILD)**Hill Top Energy Center, LLC / Confidential**

Principal-in-Charge. The details of this project are confidential.



JORDAN CARRIER

Project Director

Garney Experience: 11 years

Industry Experience: 11 years

Education

Eastern Kentucky University, B.S.
in Construction Management
(Cum Laude)

Certifications & Training

First Aid & CPR

MSD EPSC - Contractor Certified

OSHA 30-Hour

OSHA Competent Person -
Trenching & Excavation

Professional Summary

Jordan joined Garney in 2009 and has spent his entire career managing pipeline operations in Tennessee, Kentucky, Virginia, and Maryland. As Regional Operations Manager, Jordan is responsible for procuring, negotiating, and managing multiple traditional bid and alternative procurement projects, as well as power and industrial focused projects throughout the Mid-Atlantic states. Additional duties Jordan manages includes estimating, issuing contracts, coordinating with project teams, managing contractors and subcontractors, directing the project's administrative duties, and overseeing the project's safety and quality control plans.

PROJECT EXPERIENCE

LOGAN CSO INTERCEPTOR

Louisville & Jefferson County Metropolitan Sewer District / \$32,602,241

Project Manager. Installation of 10,000 LF of combined gravity sewer ranging from 24" to 96" to convey flow from 12 combined sewer overflows to a future basin site, installation of junction structures, diversion structures, control vaults, and electrical utility services.

UPHAM BROOK TRUNK SEWER

County of Henrico, VA / \$22,989,251

Regional Operations Manager. Installation of 13,760 LF of 48", 54", and 66" CCFRPM gravity sewer, two CIP diversion structures installed 53 vertical feet, five 72" microtunnels including a CSX railroad crossing, a 90" hand tunnel, and rehabilitation of existing water and sewer utilities. This required 70 MGD of bypass pumping, clearing, vehicular stream crossings, wetland impacts, stream bank stabilization, dewatering, sheet and H-piling, traffic control, and pavement restoration.

COLCHESTER INTERCEPTOR SYSTEM IMPROVEMENTS

Prince William County Service Authority / \$11,026,926

Project Manager. Installation of 5,235 LF of 36" PVC sanitary sewer force main, 36" line stop with a bypass, replacement of 2,132 LF of 54" CCFRPM gravity sewer via open cut and microtunneling, manholes and appurtenances, and 1,687 LF of 42" to 8" sanitary gravity sewer.

DIFFICULT RUN FORCE MAIN REHABILITATION

Fairfax County, VA / \$9,079,904

Project Manager. Heavy cleaning of existing 30,417 LF of 36" force main sewer pipe, two precast and five cast-in-place concrete access vaults, air valves, 4,200 LF of 36" structural CIPP lining, replacement of 1,000 LF of 36" pipe with DIP sanitary force main, 200 LF of 36" HDPE sliplining, and eight joint repairs.

CINDER COVE FORCE MAIN REHABILITATION**Anne Arundel County, MD / \$8,293,016**

Senior Project Manager. Demolition of a 22" steel force main and the installation of 6,360 LF of 36" HDPE and 30" DIP sanitary force mains. The installation will require three 36" directional drills totaling, tie-ins to the existing 24" parallel force main, a temporary bypass, dewatering, four line stops, 18 valve vaults, and permanent sheet piling.

MILL CREEK GRAVITY SEWER IMPROVEMENTS**Metro Water Services / \$7,781,387**

Project Engineer. Replacement of an existing 30" PVC gravity sewer line with the installation of 23,347 LF of 48" and 36" gravity sewer line at an average depth of 17 feet, construction of 69 manholes up to 12' in diameter, six creek crossings, four tributary crossings, three open cut road crossings, and 240 LF of auger jack and bore under a roadway.

HAYFIELD ROAD PIPE CONVEYANCE SYSTEM**Fairfax County, VA / \$6,956,900**

Regional Operations Manager. Installation of 1,196 LF of 7' x 4' box culvert including two 9' x 4' junction boxes, 320 LF of 2" to 8" DIP and HDPE waterlines, 2,034 LF of 48" RCP and 2,002 LF of 8" PVC gravity sewer including nine sewer manholes, four storm sewer connections ranging from 15" to 36", 14 storm sewer manholes, a stormwater structure including an outfall, and water service relocations.

JEFFERSONTOWN FORCE MAIN**Louisville & Jefferson County Metropolitan Sewer District / \$6,204,915**

Project Manager. Installation of 24,849 LF of 24" DIP sewer force main, 990 LF of 36" auger bore, and grading of fill material.

NORTHEAST BOUNDARY TUNNEL PROJECT (DESIGN-BUILD)**District of Columbia Water and Sewer Authority / \$4,453,313**

Senior Project Manager. Installation of 80 LF of 42" DIP sewer force main pipe requiring a bypass of the current line limited to 30 days and the installation of eleven sheet piles for support. This compressed schedule required a 24-hour, 6-day week construction operation while the bypass was enabled.

KLONDIKE INTERCEPTOR GRAVITY SEWER**Louisville & Jefferson County Metropolitan Sewer District / \$1,743,432**

Project Engineer. Installation of 3,360 LF of 36" plastic gravity sewer line, 17 manholes, pavement removal, erosion control, stream bank restoration, auger bores, bypass pumping, and appurtenance work.

500 DAVIDSON STREET EMERGENCY 48" GRAVITY SEWER MAIN REPAIR**Metro Water Services / \$1,694,786**

Project Engineer. Repair of 300 LF of 48" concrete gravity sewer main at a depth of 35' below grade, bypass pumping the flow on the 48" existing sewer during construction for a month, repairs to a sinkhole that was discovered on site, and repairs to a section of pipe for the run between manholes.

MILL CREEK 36" TRUNK SEWER REHABILITATION**Metro Water Services / \$1,647,486**

Project Engineer. Installation of 1,530 LF of 8", 32 LF of 24" and 40 LF of 36" gravity sewer and all necessary connections to an existing 66" RCP gravity sewer while maintaining flow in all existing sewers, as well as 1,787 LF of CIPP lining for 8" and 10" sanitary sewers in eight different segments.

TUCKAHOE CREEK 27-INCH TRUNK SEWER REPLACEMENT**County of Henrico, VA / \$1,523,469**

Senior Project Manager. Abandonment of 27" existing sanitary sewer by filling with flowable fill and replacement with 2,000 LF of 42" Hobas and 125 LF of 8" and 18" DIP sanitary sewer pipelines, nine manholes, and two sewer service connections.

HILL TOP ENERGY CENTER INTAKE AND DISCHARGE SYSTEM (DESIGN-BUILD)**Hill Top Energy Center, LLC / Confidential**

Regional Operations Manager. The details of this project are confidential.



JOSH KLASSEN

Project Manager

Garney Experience: 4 years

Industry Experience: 15 years

Certifications & Training

First Aid & CPR

CMAA Construction Manager in
Training Certification

Confined Space Rescue

Erosion & Sediment Control
Contractor Certification Program

OSHA Competent Person -
Confined Space; Trenching &
Excavation

Professional Summary

Josh began in the construction industry in 2005 as a laborer working several trades prior to becoming a Project Manager. Josh's duties include working with the Superintendent to ensure that all materials are delivered on time and that all subcontracted work is effectively coordinated. He is also responsible for the project's administrative duties, helping to maintain a high level of quality, and seeing each project through to completion on schedule and within budget.

PROJECT EXPERIENCE

CINDER COVE FORCE MAIN REHABILITATION

Anne Arundel County, MD / \$8,293,016

Project Manager. Demolition of a 22" steel force main and the installation of 6,360 LF of 36" HDPE and 30" DIP sanitary force mains. The installation will require three 36" directional drills totaling, tie-ins to the existing 24" parallel force main, a temporary bypass, dewatering, four line stops, 18 valve vaults, and permanent sheet piling.

SOUTH KINGS HIGHWAY TRANSMISSION MAIN

Fairfax County Water Authority / \$5,416,033

Project Manager. Installation of 10,300 LF of 24" DIP water main along a busy highway, 690 LF of 3" to 12" DIP water mains and connections, tie-in to existing 30" DIP water main, open cut crossing of Telegraph Road, interconnections to the existing water system, 12" PRV vault, electrical work, water service line reconnections, corrosion control, clearing & grubbing, traffic control, tree protection, erosion & sedimentation control, landscaping, and pavement restoration.

24-INCH TREATED EFFLUENT PIPELINE PART 1

Mattawoman Energy, LLC / Confidential

Project Manager. Installation of 3,828 LF of 24" DR11 DIPS HDPE pipe and 991 LF of 42" steel casing pipe using jack and bore methodology for crossing major roadways. Other work includes 24" isolation valves in vaults, two tunnel access and two pre-cast ARV manholes, air release valves in pre-cast vaults along the pipeline route, as well as dewatering.

SHENANDOAH RAW WATER LINE- EASTERN CITY LIMIT TO PORT REPUBLIC ROAD

City of Harrisonburg, VA / \$2,395,900

Project Manager. Installation of 15,486 LF of 24" DIP raw waterline, 398 LF of 16" PVC sanitary force main, bypass pumping, blasting, manholes, ARV concrete structures, blow-off assemblies, and paving.

TUCKAHOE CREEK 27-INCH TRUNK SEWER REPLACEMENT

County of Henrico, VA / \$1,523,469

Project Manager. Abandonment of 27" existing sanitary sewer by filling with flowable fill and replacement with 2,000 LF of 42" Hobas and 125 LF of 8" and 18" DIP sanitary sewer pipelines, nine manholes, and two sewer service connections. Included clearing, erosion control, rock excavation, paving, bypass pumping, and dewatering.

TASK ORDER 42: ADELPHI ROAD WATER MAIN REPLACEMENT (CONTRACT NO. BR5819A15)

Washington Suburban Sanitary Commission / \$1,188,000

Project Manager. Installation of 4,410 LF of 12" to 4" zinc-coated DIP waterline, 1,845 LF of 1" water house connection, and ditch line base pavement restoration.

LOUDOUN UNITED FC STADIUM - UTILITY EXTENSIONS

Town of Leesburg, VA / \$928,320

Project Manager. Installation of 1,061 LF of 8" and 4" PVC sanitary gravity line and 380 LF of 8" PVC waterline. Due to the compressed schedule, two crews worked alternating 12-hour shifts.

EMERGENCY LEAK REPAIRS

Washington Suburban Sanitary Commission / \$281,105

Project Manager. Garney mobilized crews to investigate, locate, and repair water main breaks in twelve different locations. The various scopes included repairs to waterlines ranging from 4" to 6", valve replacements, and re-connections.

PREVIOUS EXPERIENCE

VDOT 9B4

Virginia Department of Transportation / \$2,800,000

Project Manager. Project included seven phases over four years, entailing 6,500 LF of storm sewer 15"-46", 133 storm sewer structures, 1,800 LF of 8"-24" sanitary sewer, and 1,200 LF of waterline.

WTI-50 GOOSE CREEK WATERLINE

Loudoun Water / \$2,200,000

Project Manager. Installed 13,000 LF of 12" DIP that connected two separate pressure zones. This project included a 1,000 LF HDD with DIP under Goose Creek and a pressure reducing vault with SCADA.

VDOT 9B1

Virginia Department of Transportation / \$1,900,000

Project Engineer. Project included five phases over three years, involving 6,200 LF of storm sewer pipe 15"-36", 994 LF of sanitary sewer, and 1,500 LF of water main.

WTI-36, 36A AND 16A - SHELLHORN ROAD GAP CLOSURES

Loudoun Water / \$1,400,000

Project Manager. Project included 6,000 LF of 16" DIP waterline installation as well as 768 LF of 24" waterline installation.



MIKE HALL

Construction Advisor

Garney Experience: 14 years

Industry Experience: 38 years

Certifications & Training

National Pollutant Discharge
Elimination System (NPDES) 1A

OSHA 30-Hour

OSHA Competent Person -
Confined Space Safety; Trenching
& Excavation Safety

Professional Summary

Mike is responsible for supervising multiple crews installing water and sewer lines, including coordinating daily work for crew members, supervising safety operations, and quantifying productions. He is also involved in estimating, scheduling, and job cost evaluating before and throughout the projects, as well as managing subcontractors. Mike brings experience with the installation of RCP, DIP, PVC, steel, CCRFMP, PCCP, and HDPE pressure and gravity pipelines, precast and cast-in-place concrete structures, bypass pumping, drilling and blasting, sheet piling, jet grouting, hand mined tunnels, machine tunneling, jack and bore installations, river crossings, CIPP and epoxy lining, concrete and asphalt paving, and property owner coordination.

PROJECT EXPERIENCE

VIRGINIA-HIGHLAND WATER MAIN

City of Atlanta, GA / \$23,449,666

Superintendent. Installation of 112,000 LF of 6", 8" and 12" DIP waterlines installed alongside the old pipes which remained functional until the project was complete. This project entailed significant public relations and property owner coordination.

UPHAM BROOK TRUNK SEWER

County of Henrico, VA / \$22,989,251

Senior Superintendent. Includes the installation of 13,760 LF of 48", 54", and 66" Hobas CCFRPM gravity sewer, two CIP diversion structures installed 53 vertical feet, five 72" micro tunnels including a CSX railroad crossing, and a 90" hand tunnel. Also includes rehabilitation of existing water and sewer utilities. The job required 70 MGD of bypass pumping, clearing, vehicular stream crossings of Upham Brook, wetland impacts, stream bank stabilization, dewatering, sheet and H-piling, traffic control, and pavement restoration.

48" EFFLUENT PIPELINE

International Paper Company / \$17,048,050

Superintendent. Installation of 51,000 LF of 48" cement-lined, DIP sanitary force main crossing 25 wetlands and private properties.

LOWER BIG HAYNES 48" GRAVITY SEWER AND 36" FORCE MAIN

Gwinnett County Department of Water Resources / \$9,114,614

General Superintendent. Installation of 11,000 LF of deep 48" ductile iron gravity sewer with a parallel 36" ductile iron force main sewer totaling another 11,000 LF, six hard rock bores (60" and 48"), significant blasting and rock excavation, dewatering, multiple live connections, and bypass pumping.

SOUTH POTOMAC SUPPLY IMPROVEMENT PROJECT

Washington Suburban Sanitary Commission / \$14,912,632

Superintendent. Installation of 10,800 LF of 42" to 24" DIP water supply line, replacement of 5,300 LF of 42" PCCP with DIP, three 60" auger bores totaling 614 LF, demolition and replacement of existing flow control vault, and new SCADA control system.

CLINTON ZONE 30"-42" WATER TRANSMISSION MAIN

Washington Suburban Sanitary Commission / \$8,542,224

Superintendent. Installation of 14,793 LF of 20" to 42" DIP, three TBM trenchless crossings of 48" and 60" totaling 470 LF below existing roadways, blow-off assemblies, vaults, gate valves, and entry ports.

BAPTIST VALLEY SEWER EAST, PHASE 1

Tazewell County Public Service Authority / \$8,114,960

Superintendent. Installation of 73,000 LF of 8" and 10" PVC gravity sewer and DIP force main piping, construction of two grinder pump stations and one sewage pump station, as well as directional drilling, blasting, and restoration activities.

SOUTH FORCED LOWER CAPACITY IMPROVEMENTS

City of Baton Rouge / Parish of East Baton Rouge / \$8,102,853

General Superintendent. Installation of 21,000 LF of 4" to 24" PVC and DIP sanitary force main via open cut, 1,400 LF of 16" to 42" steel casing jack and bores, 5,000 LF of horizontal directional drilling with 4" to 30" HDPE, and 2,000 LF of 24" microtunneling.

RAW WATER PIPELINE PHASE I (CMAR)

Forsyth County Dept. of Water & Sewer / \$7,823,793

Superintendent. Installation of 10,000 LF of 48" push-on and restrained joint DIP, including a 440 LF hand mine rock tunnel underneath a state highway.

TRAIL CREEK EAST AND WEST INTERCEPTORS, PROJECT 1

Athens-Clarke County Public Utilities Department / \$5,885,773

Superintendent. Installation of 7,822 LF of 36", 6,120 LF of 30", and 3,024 LF of 24" ductile iron gravity

sewer, along with 74 precast concrete manholes. This included tunnels ranging from 54" to 48" and several jack and bore crossings under both railroads and highways. Challenges included extensive blasting, 7.26 MGD of around-the-clock bypass pumping, cuts at depths of 30' or more, and eight creek crossings with stream bank restoration.

WATER TRANSMISSION LINE

City of Dothan, AL / \$5,369,402

Superintendent. Installation of 67,200 LF of 8" to 24" DIP transmission main that required installations through downtown and rural areas.

STARING LANE EXTENSION PHASE 1

City of Baton Rouge / Parish of East Baton Rouge / \$5,267,667

Superintendent. Installed 3,500 LF of 64" DIP and 65" HDPE sewer force main, including 900 LF of horizontal directional drilling, deep crossings of an existing 25' wide bayou and roads.

ROGERS STATION AND JORDAN PINES COLLECTION SEWERS

Bartow County Water System / \$2,394,310

Superintendent. Installation of 2,400 LF of 10" PVC gravity sewer, 13,515 LF of 8" PVC gravity sewer, and 77 manholes in heavy groundwater and solid rock.

MIDDLE SETTINGDOWN CREEK FORCE MAIN

Forsyth County Dept. of Water & Sewer / \$1,124,000

Superintendent. Installation of 13,750 LF of 14" and 16" DIP, 700 LF of 30" roadway bores, eight air release valves, a passive odor control system, and a precast concrete valve vault.

RICE CREEK ENHANCEMENT PROJECT - EFFLUENT PIPELINE

Georgia-Pacific LLC / Confidential

Superintendent. Installation of 19,100 LF of 36" ductile iron, 4,900 LF of 28" to 42" HDPE, and 3,500 LF of 36" spiral welded steel effluent force mains, an aerial crossing, a creek crossing, one road bore within FDOT, three bores under CSX active railroads, subaqueous piping in St. Johns River, microtunneling, and sheet piling.



**SCOTT ABRAMS, PE,
ASSOC. DBIA**
Design-Build Advisor

Garney Experience: 4 years

Industry Experience: 23 years

Education

Clemson University, B.S. in Civil Engineering

University of Minnesota, M.S. in Civil Engineering

Certifications & Training

SC Professional Engineer (PE)
20195

Associate Design-Build
Professional

Professional Summary

Scott has been involved with the design and construction of water and wastewater conveyance and treatment projects since 1997. He has managed design projects ranging in size up to \$50 million. This experience includes water and wastewater treatment plants, biosolids handling, pump stations, pipeline design and rehabilitation, and master planning. Scott has also served on the preconstruction team for several collaborative design projects, including design-build, progressive design-build, and CMAR projects.

PROJECT EXPERIENCE

**YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE
(PROGRESSIVE DESIGN-BUILD)**

Union County, NC / \$100,000,000

Preconstruction Liaison. Construction of a new raw water intake with two intake screens, a common wetwell to supply raw water pumps for the Town of Norwood and Union County, vertical turbine pumps with an initial capacity of 14 MGD scalable to 40 MGD, emergency/standby power facilities, demolition of existing structures, the installation of 28 miles of 36" raw water pipeline from the new intake and pumping station to the proposed new WTP, and 11 miles of finished water infrastructure to connect to the existing finished water distribution system.

**DOBY CREEK AND LITTLE SUGAR CREEK TRIBUTARY TO FAIRVIEW ROAD
SANITARY SEWER IMPROVEMENTS (CMAR)**

Charlotte Water / \$30,068,328

Design-Build Advisor. CMAR services for the installation of 23,500 LF of 30" and 36" DIP sanitary gravity pipeline. Construction included a 120 LF 30" aerial crossing, a 390 LF 54" micro tunnel, and a 72" manhole, and required rock excavation, dewatering, paving, and public relations.

DOWNTOWN MIXED USE PROJECT (CMAR)

City of High Point, NC / \$10,530,808

Design-Build Advisor. Installation of 1,700 LF of 8" PVC sanitary gravity line, 1,000 LF of 18" to 42" RCP stormwater lines, 500 LF of 12" DIP waterline, twenty 48" manholes, pavement and sidewalk demolition, twenty-five 4" sewer service connections, 3/4" water service connections, and trench patch paving within the downtown streets of High Point, NC.

IRVINS CREEK TRIBUTARY TRUNK LINE (PROGRESSIVE DESIGN-BUILD)

Charlotte Water / \$4,758,673

Design-Build Advisor. Removal and replacement of 4,500 LF of 24" DIP gravity sewer pipe that required two 48" auger bores for 400 LF, bypass pumping, rock trenching, deep excavations, manholes, and sewer service connections.

MCALPINE CREEK WASTEWATER MANAGEMENT FACILITY RELIABILITY AND PROCESS IMPROVEMENTS (PROGRESSIVE DESIGN-BUILD)

Charlotte Water / \$132,147,109

Preconstruction Liaison. This project will begin with a preconstruction phase follow by construction to include rehabilitation of 16 secondary clarifiers, 28 aeration basins, and replacement of the plant's three blower buildings.

RIFLE RANGE ROAD WWTP EXPANSION (CMAR)

Mount Pleasant Waterworks / \$58,949,443

Preconstruction Liaison. Expanded facilities related to the headworks, influent pump station, screening and grit removal of raw influent, biological process basins (anoxic zones and aeration basins), odor control system, flow EQ tank, secondary clarification, process blowers and building, chlorine contact basins, sludge dewatering upgrades including a belt press, major electrical including new central power distribution center and generators, and SCADA systems.

SUGAR CREEK WWTP RELIABILITY IMPROVEMENTS (CMAR)

Charlotte Water / \$23,499,728

Preconstruction Liaison. CMAR services to provide cost estimates, constructability, and value engineering during the preconstruction phase. Construction components include upgrades to existing blowers with high speed turbo blowers, pre-anoxic swing zones, redistribute diffusers, implement ammonia based aeration control (ABAC) and install a new aeration basin influent (ABI) flow distribution structure, add

chemical phosphorus removal feed system, convert main lift pumping station, rehabilitate effluent filters, implement final clarifier launder improvements, replace the flow control gates, and implement RAS pumping improvements.

SOUTHSIDE WWTP UV DISINFECTION PROJECT (PROGRESSIVE DESIGN-BUILD)

Cape Fear Public Utility Authority / \$2,667,644

Preconstruction Engineer. The scope of work includes conversion of the existing chlorine contact chambers to an in-channel type UV disinfection system, minor concrete modifications to the structure, electrical, and instrumentation & controls modifications.

PREVIOUS EXPERIENCE

INGLESIDE WATER MAIN EXTENSION

Charleston Water System / \$5,000,000

Construction Administration. This project consisted of the a 20,000 LF extension of 24" waterline to serve the developing Ingleside Tract in the North Charleston section of CWS' service area. Scott provided construction administration and inspection services for the project. Duties included review shop drawings and submittals, answering RFIs, reviewing pay applications and conducting progress meetings. Scott was also responsible for coordinating testing services for road subgrade and trench backfill density tests and asphalt testing for pavement resurfacing. Scott also observed pressure testing of the completed work.

WASTEWATER PUMP STATION AND FORCE MAIN

Renewable Water Resources / \$3,000,000

Design Engineer. 3,000 gpm triplex submersible pump station and 5,000 LF of 16" force main, including a 200-foot river crossing. This project eliminated the Saluda WWTP. Flow was diverted to the new Georges Creek WWTP.



CRAIG HARDING
Construction Manager
(Ivy Creek Interceptor)

Garney Experience: 4 years

Industry Experience: 4 years

Education

University of Kansas, B.S. in
Mechanical Engineering

Certifications & Training

First Aid & CPR

OSHA 30-Hour

OSHA Competent Person -
Confined Space; Trenching &
Excavation

Professional Summary

Since joining Garney, Craig has worked on water and sewer pipeline projects in urban areas throughout the Mid-Atlantic. These projects have involved trenchless installations, rock excavation, property owner coordination, concrete structures, bypass pumping, and restoration. Craig's responsibilities include estimating, issuing contracts, coordinating with the Superintendent, managing contractors and subcontractors, directing the project's administrative duties, and overseeing the project's safety and quality control plans.

PROJECT EXPERIENCE

SMITH MOUNTAIN LAKE WTP PIPELINES - CONTRACTS A, B, C, D, & E (DESIGN-BUILD)

Bedford Regional Water Authority / \$14,956,193

Project Engineer. Installation of 153,120 LF of 16" and 18" PVC and ductile iron waterlines, and 46 jack and bores totaling 2,710 LF including three creek crossings through rock. This entailed meeting a tight schedule, steep terrain, and working within a constrained VDOT right-of-way. The project also included impact to more than 60 private drives. Garney interfaced with every homeowner impacted and planned for property restoration, with the goal of exceeding expectations for repair and restorations.

UPHAM BROOK TRUNK SEWER

County of Henrico, VA / \$22,989,251

Assistant Project Manager. Installation of 13,760 LF of 48", 54", and 66" Hobas CCFRPM gravity sewer, two CIP diversion structures installed 53 vertical feet, five 72" micro tunnels including a CSX railroad crossing, and a 90" hand tunnel. Also includes rehabilitation of existing water and sewer utilities. The job required 70 MGD of bypass pumping, clearing, vehicular stream crossings of Upham Brook, wetland impacts, stream bank stabilization, dewatering, sheet and H-piling, traffic control, and pavement restoration.

CLINTON ZONE 30"-42" WATER TRANSMISSION MAIN ALONG BRANCH AVENUE - PHASE III

Washington Suburban Sanitary Commission / \$8,542,224

Project Engineer. Installation of 14,793 LF of 20" to 42" DIP, three TBM trenchless crossings of 48" and 60" totaling 470 LF below existing roadways, blow-off assemblies, vaults, gate valves, and entry ports.



MATT DAUK
Construction Manager
(Route 460 Pump Station)

Garney Experience: 6 years

Industry Experience: 13 years

Education

Minnesota State University -
Mankato, B.S. in Construction
Management with minors in
Business Law and Business
Administration

South Central College - Mankato,
Coursework in Fire Protection
and Emergency Medical

Certifications & Training

AIC Associate Constructor
Credential

First Aid & CPR

OSHA 30-Hour

PADI Emergency First Response
Instructor

PADI Open Water Scuba
Instructor

Professional Summary

Matt started in the industry in 2007 as a laborer learning the electrical trade. He began with Garney in January 2014 as an intern and since has worked as a Project Engineer, Assistant Project Manager, and now Project Manager. As Project Manager, Matt's responsibilities include daily management of operations in the field, client engagement, material procurement and approval, submittal development and management, site preparation, subcontractor management and documentation, scheduling deliveries, and attending progress meetings.

PROJECT EXPERIENCE

**GREEN MEADOWS WATER TREATMENT PLANT AND WELLFIELD EXPANSION
(CMAR)**

Lee County Utilities / \$75,890,507

Assistant Project Manager. CMAR for new 14 MGD reverse osmosis (RO) water treatment plant that included a process building, chemical systems, ION exchange system, one deep injection well, six production wells, modifications to eight existing wells, new electrical buildings, and fifteen miles of production well piping.

**V.C. SUMMER OWS WATER TREATMENT PLANT SYSTEM (DESIGN-BUILD-
OPERATE)**

South Carolina Electric & Gas / \$30,915,779

Field Engineer. Included ultrafiltration membrane and reverse osmosis, laboratory facilities and control room, a land-based raw water intake structure, and a distribution pump station.

**V.C. SUMMER UNITS 2 & 3 WWS DISCHARGE & RWS INTAKE STRUCTURES
South Carolina Electric & Gas / Confidential**

Project Engineer. Construction of a 4,000 CY reinforced concrete raw water system intake structure within a temporary cofferdam approximately 35' deep with mechanical equipment including stop logs, trash rakes and screens. Also included construction of a wastewater system discharge structure inside a temporary cofferdam consisting of 24 H-Pile piers supporting a 36" HDPE discharge line and diffuser.

VILLAGES OF SOUTHERN OAKS WTP (DESIGN-BUILD)

Sumter Water Conservation Authority / \$7,794,428

Assistant Project Manager. Construction of a greenfield 5.8 MGD WTP that included two wells, sulfuric acid storage and injection system, packed tower centrifugal aerator odor control system and transfer pump station, bio filter structure, sodium hypochlorite storage and injection system, in-line static mixer, concrete storage tank, high service pump station, stormwater and process piping, and associated electrical, instrumentation, and controls.

LEESBURG (SOUTH) EFFLUENT PUMP STATION - PHASE 2 (DESIGN-BUILD)

Southeast Wildwood Water Conservation Authority / \$3,824,874

Assistant Project Manager. Construction of a pump station consisting of six vertical turbine pumps including three 60 hp and three 150 hp pumps, a separate electrical building, a backup generator, dewatering, and paving.

SEWWCA (NORTH) EFFLUENT PUMP STATION - PHASE 2 (DESIGN-BUILD)

City of Leesburg, FL / \$3,111,737

Assistant Project Manager. Included the construction of an effluent pump station, an intake screen, precast electrical building, generator installation, yard piping, paving, and minor civil work.

WWTP INFLUENT CHANNEL REHAB AT PRELIMINARY TREATMENT STRUCTURE

Reedy Creek Improvement District / \$2,020,800

Assistant Project Manager. Installation of 500 LF of 48" Hobas gravity sewer buried fiberglass line, modifications to 40 LF of existing 42" DIP gravity sewer odor control and EQ basin return pipe that will require a linestop, the demolition of a splitter box, and paving.

LSSA AERATOR REPLACEMENT

Little Sumter Utility Company / \$293,800

Assistant Project Manager. Removal of existing aerator equipment and replacement with Ovivo aerators including velocity enhancing baffles and lower partition wall extensions, as well as the removal and replacement of existing variable frequency drives and electrical wire.



JUSTIN MILLER
Superintendent (Ivy Creek Interceptor)

Garney Experience: 3 years

Industry Experience: 15 years

Certifications & Training

MD Erosion & Sediment Control
Certification RPC007055

VDOT Intermediate Work Zone
Traffic Control Training and
Flagger Certification

Confined Space Rescue

First Aid & CPR

Large Diameter HDPE Butt Fusion

OSHA 30-Hour

OSHA Competent Person -
Confined Space, Rigging, and
Trenching & Excavation

Temporary Traffic Control
Manager

Professional Summary

Justin started in the construction industry in 2005 holding various positions including a Laborer, a Site Safety Coordinator, and a Pipe Foreman installing water, sewer, and storm drains. In 2016, he joined Garney as an Assistant Superintendent. After gaining experience in the water and wastewater industry, he progressed to Superintendent. Justin's responsibilities include supervising Garney's field crew, subcontractors, and equipment; ordering materials; ensuring safety and quality practices that align with the project-specific safety and quality plans; and interfacing with property owners.

PROJECT EXPERIENCE

JOHN HANSON HIGHWAY WATER TRANSMISSION MAIN

Washington Suburban Sanitary Commission / \$11,606,494

Assistant Superintendent. Installation of 9,317 LF of 36" DIP potable water transmission main along John Hanson Highway and Martin Luther King Jr. Highway, two 54" RCP hand-mined tunnel crossings totaling 233 LF, two 36" mainline gate valve and vaults, five 8" air/vacuum release valves in vaults, eight 6" blow-off assemblies, two entry port vaults, a cathodic protection system, and a flow control vault.

COLCHESTER INTERCEPTOR SYSTEM IMPROVEMENTS

Prince William County Service Authority / \$11,026,926

Assistant Superintendent. Installation of 5,235 LF of 36" PVC sanitary sewer force main, 36" line stop with a bypass, replacement of 2,132 LF of 54" CCFRPM gravity sewer via open cut and micro-tunneling, manholes and appurtenances, 1,687 LF of 42" to 8" sanitary gravity sewer, and construction of a submersible pump station with two 10 hp pumps rated at 350 gpm.

DIFFICULT RUN FORCE MAIN REHABILITATION

Fairfax County, VA / \$9,079,904

Assistant Superintendent. Heavy cleaning of existing 30,417 LF of 36" force main sewer pipe, installation of two precast and five cast-in-place concrete access vaults, air valves, 4,200 LF of 36" structural CIPP lining, replacement of 1,000 LF of 36" pipe with DIP sanitary force main, 200 LF of 36" HDPE sliplining, and eight joint repairs.

STERLING BOULEVARD WATER MAIN - PHASE 2**Loudoun Water / \$4,842,744**

Assistant Superintendent. Installation of 7,500 LF of 24" water main, two pressure reducing valve vaults for tying this water main into the local distribution system, and four 24" - 42" steel casing jack and bores totaling 1,035 LF.

TUCKAHOE CREEK 27-INCH TRUNK SEWER REPLACEMENT**County of Henrico, VA / \$1,523,469**

Superintendent. Abandonment of 27" existing sanitary sewer by filling with flowable fill and replacement with 2,000 LF of 42" Hobas and 125 LF of 8" and 18" DIP sanitary sewer pipelines, nine manholes, and two sewer service connections. Included clearing, erosion control, rock excavation, paving, bypass pumping, and dewatering.

HILL TOP ENERGY CENTER WATER INTAKE AND DISCHARGE SYSTEM (DESIGN-BUILD)**Hill Top Energy Center, LLC / Confidential**

Superintendent. The details of this project are confidential.

24-INCH TREATED EFFLUENT PIPELINE PART 1**Mattawoman Energy, LLC / Confidential**

Assistant Superintendent. Installation of 3,828 LF of 24" DR11 DIPS HDPE pipe and 991 LF of 42" steel casing pipe using jack and bore methodology for crossing major roadways. Other work includes 24" isolation valves in vaults, two tunnel access and two pre-cast ARV manholes, air release valves in pre-cast vaults along the pipeline route, as well as dewatering.

CROSS GENERATING STATION OUTFALL DIFFUSER**Santee Cooper Power Company / Confidential**

Superintendent. Installation of 120 LF of 36" HDPE outfall with diffusers, anchored to the bottom of a waterway, with four 8" micropiles.

PREVIOUS EXPERIENCE**9B-4**

Virginia Department of Transportation / \$2,400,000

Foreman. Installation of 4,000 LF of 15" to 48" RCP storm sewer and appurtenances, as well as 1,000 LF of 10" to 16" DIP gravity sanitary sewer.

STORM & SANITARY SEWER MAINTENANCE

Fairfax County - Fairfax City - Falls Church / \$1,500,000

Foreman. This included individual task orders from three different Owners which ranged from point repairs on active storm and sanitary systems to the installation of new storm systems in areas with poor drainage and erosion issues. Work also included the installation of imbricated stone outfalls and upgrading existing storm outfalls.

HILLCREST HEIGHTS

Washington Suburban Sanitary Commission / \$1,400,000

Foreman. Installation of 10,000 LF of 8" to 12" water main, 3,000 LF of temporary water, and 150 LF of direct tap 1" water services with new meter settings.

BRADDOCK ROAD WATER MAIN INSTALLATION**Loudoun Water / \$1,100,000**

Foreman. Installation of 2,100 LF of 8" water main which connected an existing 24" water main. Also included two fire hydrants, two tie-ins, and 1,700 LF of full depth trench paving in Braddock Road.



JIM RUDD

Superintendent (Route 460 Pump Station)

Garney Experience: 4 years

Industry Experience: 32 years

Education

Certifications & Training

TN Erosion Prevention and
Sediment Control - Level 1
Certification 138306

Advanced MOT

DEP Storm Water Management

EM 385-1-1 8-Hour

First Aid & CPR

OSHA 30-Hour

OSHA Competent Person -
Confined Space, Scaffolding, and
Trenching & Excavation

45-5805

Professional Summary

James has been working in the industry since 1988, and has held many different positions, such as Foreman, Project Manager, and Superintendent. As Superintendent, Jim is responsible for supervising the job, ordering materials, maintaining equipment, ensuring safety on the job site, and coordinating with the subcontractors for successful completion.

PROJECT EXPERIENCE

PEMBROKE PINES - PHASE II NEUTRALIZER SWC-3_15K

City of Pembroke Pines, FL / \$2,635,000

Superintendent. Installation of a new Class AA Biosolids facility to include two 175 GPM centrifuges, three 15,000 gallon process tanks, process pumps, thickener, chemical feed system and truck loading bay.

STEAM AND GAS CIVIL (DESIGN-BUILD)

Holston Army Ammunition Plant / Confidential

Superintendent. Site clearing, 35,000 CY of excavation, the installation of 3,100 LF of 12" C900 PVC gravity industrial waste pipeline and manholes, 2,600 LF of 12" to 18" HDPE storm drainage piping, 1,700 LF of 4" to 12" extra heavy cast iron piping for industrial waste drainage, 800 LF of 14" filtered water pipeline, restrained DIP river water pipeline which included removal of sedimentary rock using hoe ramming, and 300 LF of 6" PVC gravity sanitary sewer. Also includes the construction of the new Natural Gas Fired Steam Facility containment structure and paved roads/parking lots.

EQUALIZATION BASINS 1 AND 2 AND ELECTRICAL BUILDING

Holston Army Ammunition Plant / Confidential

Superintendent. Installation of two pre-cast manholes, construction of 64 concrete pipe supports, erection of 82 metal pipe supports, welding and installation of 3,000 LF of 24" stainless steel force main, construction of 185' and 135' concrete equalization basins, installation of a Jet-Mix system including five mixing pumps, construction of three masonry buildings, construction of a cast-in-place mixer vault, site electrical, plumbing, and painting.

AERATION BASINS 3W AND 4W

Holston Army Ammunition Plant / Confidential

Superintendent. Addition of two new concrete aeration basins, modification of two existing aeration basins, phosphoric acid storage and feed system, urea storage and feed system, micronutrient storage and feed system, new blower building, blower system, return activated sludge (RAS) splitter box and all associated piping, and electrical.

AREA B INDUSTRIAL & SANITARY SEWER REHABILITATION PROJECT - PHASE 1

Holston Army Ammunition Plant / Confidential

Superintendent. Rehabilitation of 7,000 LF of industrial sewer pipelines and seventy 48" manholes through CIPP, coatings, leak repairs, dig and replace point repairs, lateral reinstatement, 1.5 MGD bypass system setup and maintenance throughout, ring and cover replacement, and bollard installation.

ADDITIONAL MEDIA FILTERS AT IWWT

Holston Army Ammunition Plant / Confidential

Superintendent. Installation of four media filter cells, renovation of four existing media filter cells, instrumentation and controls, electrical upgrades, and installation of an effluent screw pump and various piping runs.

ANOXIC BASINS 5E AND 6E AND ALT 1 UPGRADE ANOXIC BASINS 3E AND 4E

Holston Army Ammunition Plant / Confidential

Superintendent. Construction of two 52' x 53' anoxic basins, installation of four hyperboloid mixers, four coarse bubble diffusers, mud valves, stop and slide gates, relocation and replacement of two manholes, grating, supports, electrical system, air compressors, centrifugal pumps, demolition of an existing basin trough, 6 MGD of temporary bypass pumping, 500 LF of 1" stainless steel process pipe, 400 LF of 4" and 42" DIP force main, and 100 LF of 8" DIP stormwater pipe.

ANOXIC BASINS 7E AND 8E

Holston Army Ammunition Plant / Confidential

Superintendent. Construction of four new concrete anoxic treatment basins, rehabilitation of four existing basins, installation of mixers, flow control gates, process piping, aeration systems, electrical, instrumentation and controls.

ANOXIC BASINS 30 AND 40 AND CONTROL ROOM

Holston Army Ammunition Plant / Confidential

Superintendent. Installation of 150 LF of 18" stainless steel force main, 6 MGD of temporary bypass pumping, a mixing box concrete structure, hyperboloid mixers, 18" submersible and centrifugal pumps, walkways and platforms, an 18" manhole, and electrical installations.

ANOXIC BASINS 10 AND 20

Holston Army Ammunition Plant / Confidential

Superintendent. Modification of existing anoxic basins with submersible mixers and motor mechanisms for basins 10, 20, 30 and 40, demolition and associated work for the building 235 Control Room renovation and upgrade, and installation of 1,100 LF of 24" welded stainless steel process pipe installed at the Holston Army Ammunition Plant.

B203 PUMP & ELECTRICAL UPGRADES

Holston Army Ammunition Plant / Confidential

Superintendent. Four new filter feed pumps that run on new 2,400V switchgear, two new 50 hp filter backwash pumps run by a new 480V MCC, and demolition of existing pumps and piping. Also included the installation of new instrumentation, PLCs, lighting, motorized valves, upgrades to the existing controls rooms, and window demolition and abatement.

FEM INDUSTRIAL SEWER REHAB

BAE Systems Ordnance Systems, Inc. /

Confidential

Superintendent. Rehabilitation of an existing 24" industrial vitrified clay pipe sewer line through the installation of 460 LF of cured in place pipe (CIPP) liner and the rehabilitation of three manholes using protective coatings. The work required 2,500 LF of 6" bypass pipelines and eight double AOD pumps.

BAE HOLSTON - CONTINUING SERVICES CONTRACT

Holston Army Ammunition Plant / Confidential

Superintendent. Completed services under this continuing services contract include 6" and 2" ductile iron line valve replacements, resetting a 6,000-gallon chemical tank, concrete basin wall repairs, hydrochloric tank farm drain system repairs, structural repairs for the damaged production building, and excavation services to access existing PVC drain line valve tie-ins.



KOHLI HAWKINS

Project Engineer (Ivy Creek Interceptor)

Garney Experience: 3 years

Industry Experience: 4 years

Education

Christopher Newport University,
B.S. in Computer Engineering

Certifications & Training

First Aid & CPR

OSHA Competent Person -
Confined Space; Trenching &
Excavation

Professional Summary

Before joining Garney as a Project Engineer, Kohly worked as an Architectural Project Designer, Network Technician, and Field Surveyor. As Project Engineer, Kohly's responsibilities include handling submittals, site preparation, subcontractor management and tracking documentation, scheduling deliveries, and attending progress meetings. He will also execute the project's administrative duties including all safety and quality documentation.

PROJECT EXPERIENCE

SOUTH KINGS HIGHWAY TRANSMISSION MAIN

Fairfax County Water Authority / \$5,416,033

Project Engineer. Installation of 10,300 LF of 24" DIP water main along a busy highway, 690 LF of 3" to 12" DIP water mains and connections, tie-in to existing 30" DIP water main, open cut crossing of Telegraph Road, interconnections to the existing water system, 12" PRV vault, electrical work, water service line reconnections, corrosion control, clearing & grubbing, traffic control, tree protection, erosion & sedimentation control, landscaping, and pavement restoration.

CROWN NEIGHBORHOOD 3

VII Crown Farm Owner, LLC / \$3,171,995

Project Engineer. Removal and replacement of existing PCCP water mains with 1,467 LF of 60" welded steel pipe and 1,467 LF of 36" DIP, re-connections to the existing PCCP water mains, and installation of a cathodic protection system.

WATER MAIN BETTERMENT EXTENSION

Washington Suburban Sanitary Commission / \$2,895,866

Project Engineer. Installation of 7,023 LF of 30" to 16" DIP waterline, 570 LF of 48" to 30" of open-cut steel casing, eight 96" precast valve vaults, two precast air release vaults, two precast 60" blow-off manholes, cathodic protection system, and six tie-ins to existing water mains with associated concrete thrust collars.

TUCKAHOE CREEK 27-INCH TRUNK SEWER REPLACEMENT

County of Henrico, VA / \$1,523,469

Project Engineer. Abandonment of 27" existing sanitary sewer by filling with flowable fill and replacement with 2,000 LF of 42" Hobas and 125 LF of 8" and 18" DIP sanitary sewer pipelines, nine manholes, and two sewer service connections. Included clearing, erosion control, rock excavation, paving, bypass pumping, and dewatering.

PREVIOUS EXPERIENCE

MERENDINO RESIDENTIAL DESIGN & BUILD

Tony & Nancy Merendino / \$260,000

Project Designer. This project was a two part project consisting of the design and the construction of a summer home along the Shenandoah River in Luray, Virginia. My tasks included drawing and assisting the design of the house plan, communicate with clients about design needs, setting up subcontractors and vendors and the scheduling of the project.

SHENANDOAH VALLEY

Valley Surveying

Field Engineer. Assisted with the daily field operations for a variety of surveying projects including topographic surveys, boundary surveys, transportation surveys, and construction surveys for private and commercial clients. While in the office, I assisted with the drawing of plats, plans and title surveys using CAD software.



DENNIS KNIGHT, PE
Principal-in-Charge

W|W Experience: 22 years

Industry Experience: 25 years

Education

Virginia Tech, B.S. in Civil
Engineering

Registrations and Certifications

Virginia Professional Engineer
(PE) 032391

Professional Summary

With more than 20 years at Wiley|Wilson, Dennis has expertise in civil engineering projects where he has served as Principal-in-Charge, Project Manager, and Lead Engineer for a variety of assignments. His experience includes distribution systems, water treatment plants, pump stations, storage tanks, wastewater treatment plants, gravity sewer systems, wastewater pump stations, force main sewers, storm sewer systems, flood control, permitting, environmental impact reports, environmental assessments, and separation of combined sewer systems.

PROJECT EXPERIENCE

ROYAL GLEN PS #5/INTERCEPTOR IMPROVEMENTS

Hanover County, VA

Principal-in-Charge. Design and construction services for 10,000 LF of 30" to 36" interceptor sewer and removal of two pump stations. The project included secondary road crossings, environmental permitting, and historic resource preservation.

BURTON CREEK INTERCEPTOR

City of Lynchburg, VA

Principal-in-Charge. Design and installation of 2,000 LF of 18" CIPP and 12,000 LF of 24" and 30" interceptor sewer replacement. Performed evaluation, which included a comprehensive survey of the existing infrastructure, smoke testing, pole camera manhole inspections, dye testing, CCTV inspections, and night flow isolations.

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Principal-in-Charge. Preliminary engineering and funding assistance for a master plan and preliminary engineering report that will result in replacing over 48,700 LF of interceptor ranging from 48" to 72". We are currently providing design, easement acquisition, and geotechnical exploration for the Blacks Run Interceptor Division 1 project that includes 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.

IVY CREEK DIVISION 5 & 6 PER

Bedford Regional Water Authority

Principal-in-Charge. Evaluation of extension of a gravity interceptor along Ivy Creek from the upstream end of the City of Lynchburg's Ivy Creek Division 4 interceptor to the Authority's Lake Vista pump station (LVPS). Construction of this gravity interceptor will allow the Forest area to be served by gravity, and the LVPS to be shutdown and taken off-line.



AARON TICE, PE

Design Manager

W|W Experience: 12 years

Industry Experience: 12 years

Education

Michigan Technological University,
B.S. in Environmental Engineering

Registrations and Certifications

Virginia Professional Engineer
(PE) 047263

Professional Summary

Aaron's experience includes supporting clients as they plan, design, and construct projects for their drinking water and wastewater utility systems. He has led a diverse range of projects such as water and wastewater master plans, including a wastewater collection system design from 8" lines to 72" interceptors and a water distribution system design from 8" lines to 30" distribution mains. He also developed a water distribution system and a wastewater collection system model to support clients' master planning initiatives and identify utility system weaknesses.

PROJECT EXPERIENCE

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Project Manager. Preliminary engineering and funding assistance for a master plan and preliminary engineering report that will result in replacing over 48,700 LF of interceptor ranging from 48" to 72". We are currently providing design, easement acquisition, and geotechnical exploration for the Blacks Run Interceptor Division 1 project that includes 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.

IVY CREEK DIVISION 5 & 6 PER

Bedford Regional Water Authority

Project Manager. Evaluation of extension of a gravity interceptor along Ivy Creek from the upstream end of the City of Lynchburg's Ivy Creek Division 4 interceptor to the Authority's Lake Vista pump station (LVPS). Construction of this gravity interceptor will allow the Forest area to be served by gravity, and the LVPS to be shutdown and taken off-line.

INTERCEPTOR LEVEL OF SERVICE MASTER PLAN

Harrisonburg-Rockingham Regional Sewer Authority

Project Manager. The Level of Service Master Plan evaluated the major HRRSA interceptors and provided a plan to achieve a 10 year Level of Service and support growth in areas important to HRRSA's members.

RAW WATER LINES 256.2A, 256.2B, AND 256.1

City of Harrisonburg, VA

Project Manager. 256.1 Raw Water Line: Planning, design, and construction administration of 45,000 LF of 24" raw water line. 256.2B Raw Water Line: Planning, design, and construction administration of 16,600 LF of 24" raw water line. 256.2A Raw Water Line: Planning, design, and construction administration of 10,100 LF of 24" raw water line.



**KEITH THOMPSON, PE,
LEED AP BD+C, ENV SP**
QC Manager

W|W Experience: 18 years

Industry Experience: 21 years

Education

Old Dominion University, B.S. in
Civil Engineering Technology

Registrations and Certifications

Virginia Professional Engineer
(PE) 041823

LEED Accredited Professional
(BD+C)

Envision Sustainability
Professional

Professional Summary

Keith is a Senior Engineer and Project Manager experienced in civil engineering, including the evaluation and design of gravity storm and sanitary sewers, water line upgrades, extended detention ponds, sanitary sewer interceptors, combined sewer overflow solutions, and sanitary sewer rehabilitation. He served as Design Engineer and Project Manager on multiple Combined Sewer Overflow (CSO) projects which included 63,000 feet of 8" to 30" gravity sewer and 27,000 feet of 8" to 24" sanitary sewer rehabilitation.

PROJECT EXPERIENCE

BURTON CREEK INTERCEPTOR

City of Lynchburg, VA

Project Manager. Design and installation of 2,000 LF of 18" CIPP and 12,000 LF of 24" and 30" interceptor sewer replacement. Performed evaluation, which included a comprehensive survey of the existing infrastructure, smoke testing, pole camera manhole inspections, dye testing, CCTV inspections, and night flow isolations.

REGIONAL INTERCEPTOR PROJECTS

City of Lynchburg, VA

Senior Engineer. Design and construction phase services for listed interceptors. Interceptor projects included multiple major road and railroad crossings, environmental permitting, and stakeholder outreach in a developing downtown area.

- Upper James River Interceptor (24" to 36")
- Lower James River Interceptor (72" to 84")
- Blackwater Creek Interceptor (36" to 60")
- Fishing Creek Interceptor (48" to 60")
- Ivy Creek Interceptor (24" to 36")

KEMPER STREET INTERCEPTOR

City of Lynchburg, VA

Project Manager and Lead Engineer. Designed the new 24" interceptor to replace an existing undersized main. Sections of the existing 24" sewer were lined using CIPP. The line was developed to increase capacity of the existing system to reduce the occurrence over sewer overflows.

JAMES RIVER INTERCEPTOR

City of Lynchburg, VA

Project Manager and Civil Engineer. Planning, design, and construction administration of 32,000 LF of 24" to 84" sewer interceptor.



WAYNE MASSIE, PE

Lead Civil Engineer

W|W Experience: 20 years

Industry Experience: 24 years

Education

Bluefield State College, B.S. in
Civil Engineering

Registrations and Certifications

Virginia Professional Engineer
(PE) 036495

Professional Summary

Wayne is a Senior Engineer who has design experience that includes evaluation and design of gravity storm and sanitary sewers, sanitary force mains, sanitary sewer interceptors, combined sewer overflow solutions, and sanitary sewer rehabilitation. He is knowledgeable in easement plat creation for new utility installations. He also has experience in construction administration and inspection procedure.

PROJECT EXPERIENCE

IVY CREEK DIVISION 5 & 6 PER

Bedford Regional Water Authority

Civil Team Member. Evaluation of extension of a gravity interceptor along Ivy Creek. Construction of this interceptor will allow the Forest area to be served by gravity, and the LVPS to be shutdown and taken off-line.

ROYAL GLEN PS #5/INTERCEPTOR IMPROVEMENTS

Hanover County, VA

Civil Engineer. Design and construction services for 10,000 LF of 30" to 36" interceptor sewer and removal of two pump stations.

LOWER OPOSSUM CREEK INTERCEPTOR

Hanover County, VA

Civil Engineer. PER and design of 14,000 LF of 36" gravity sewer interceptor capable of conveying at least 12 MGD in the future.

BURTON CREEK INTERCEPTOR

City of Lynchburg, VA

Civil Engineer. Design and installation of 2,000 LF of 18" CIPP and 12,000 LF of 24" and 30" interceptor sewer replacement. Comprehensive survey of the existing infrastructure, smoke testing, pole camera manhole inspections, dye testing, CCTV inspections, and night flow isolations.

COMMONWEALTH CROSSING BUSINESS CENTRE WASTEWATER EXTENSION

Henry County, VA

Civil Engineer. Design services included preparation of a PER; an Environmental Narrative in accordance with Economic Development Administration requirements; engineering design of 24,000 LF of gravity sewer; and submittal to various agencies for review.

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Civil Engineer. Design, easement acquisition, geotechnical exploration for the BRI Division 1 project with 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.



TED ELSHOF, EIT
Civil Team Member

W|W Experience: 1 year

Industry Experience: 2 years

Education

North Carolina State University,
B.S. in Civil Engineering



MATTHEW MCGARRY, EIT
Civil Team Member

W|W Experience: 2 years

Industry Experience: 2 years

Education

Virginia Tech, B.S. in Civil
Engineering

Professional Summary

Since graduating from North Carolina State University, Ted has continued to grow his expertise in water resources engineering. He is an Engineer-in-Training who has experience with pipeline assessment, routing, design, and rehabilitation of water and sewer mains up to 36" in size.

PROJECT EXPERIENCE

ROYAL GLEN PS #5/INTERCEPTOR IMPROVEMENTS

Hanover County, VA

Civil Team Member. Design and construction services for 10,000 LF of 30" to 36" interceptor sewer and removal of two pump stations. The project included secondary road crossings, environmental permitting, and historic resource preservation.

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Civil Team Member. Providing design, easement acquisition and geotechnical exploration for the Blacks Run Interceptor Division 1 project that includes 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.

Professional Summary

Matthew is an Engineer-in-Training with a B.S. in Civil Engineering from Virginia Tech. He gained experience as an Engineering Intern for the Town of Christiansburg before coming to Wiley|Wilson.

PROJECT EXPERIENCE

IVY CREEK DIVISION 5 & 6 PER

Bedford Regional Water Authority

Civil Team Member. Evaluation of extension of a gravity interceptor along Ivy Creek from the upstream end of the City of Lynchburg's Ivy Creek Division 4 interceptor to the Authority's Lake Vista pump station (LVPS). Construction of this gravity interceptor will allow the Forest area to be served by gravity, and the LVPS to be shutdown and taken off-line.

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Civil Team Member. Providing design, easement acquisition and geotechnical exploration for the Blacks Run Interceptor Division 1 project that includes 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.



BRIAN HARVEY, LS

Civil Team Member

W|W Experience: 16 years

Industry Experience: 19 years

Education

Virginia Tech, B.S. in Forestry

Registrations and Certifications

Virginia Land Surveyor 003119



CHRIS BRYAN

Survey Party Chief

W|W Experience: 17 years

Industry Experience: 29 years

Education

Central Virginia Community
College, Coursework in AutoCAD

Professional Summary

Brian is a licensed Land Surveyor with nearly two decades of survey experience on engineering projects involving sanitary and storm sewers, topographic surveys, waterlines, and highways and roads. His experience in land surveying includes underground utility location, boundary, and field crew operations in the field.

PROJECT EXPERIENCE

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Surveyor. Providing design, easement acquisition and geotechnical exploration for the Blacks Run Interceptor Division 1 project that includes 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.

ROYAL GLEN PS #5/INTERCEPTOR IMPROVEMENTS

Hanover County, VA

Surveyor. Design and construction services for 10,000 LF of 30" to 36" interceptor sewer and removal of two pump stations. Project included secondary road crossings, environmental permitting, and historic resource preservation.

Professional Summary

Chris maintains communication with clients and regulatory agency officials. He has extensive survey experience on projects involving sanitary and storm sewers, topographic surveys, and waterlines. His experience in land surveying includes underground utility location, boundary, and field crew operations in the field.

PROJECT EXPERIENCE

ROYAL GLEN PS #5/INTERCEPTOR IMPROVEMENTS

Hanover County, VA

Survey Party Chief. Design and construction services for 10,000 LF of 30" to 36" interceptor sewer and removal of two pump stations. Project included secondary road crossings, environmental permitting, and historic resource preservation.

BLACKS RUN INTERCEPTOR

Harrisonburg-Rockingham Regional Sewer Authority

Survey Party Chief. Providing design, easement acquisition and geotechnical exploration for the Blacks Run Interceptor Division 1 project that includes 3,700 LF of 48" interceptor and 2,900 LF of 36" sewer lining and manhole rehabilitation.

QUALIFICATIONS AND EXPERIENCE—COMPARABLE EXPERIENCE

PIPELINE EXPERIENCE

Garney and Wiley|Wilson's specialized experience designing, permitting, and self-performing construction of water and wastewater pipelines is the ideal match for the demands of the Ivy Creek Interceptor. Our prior experience working together will provide BRWA with a high degree of collaboration and ensure the design intent is carried through to construction and commissioning. Details of comparable design and construction reference projects of similar size and nature are shown on the following pages.

Together, Garney and Wiley|Wilson bring an experienced local team backed by a considerable depth of resources and national experts. Our experience designing and constructing more than 1,000 pipeline projects will be especially critical in alleviating risk for BRWA and enhancing future operational efficiency.

COLLABORATIVE DELIVERY

Our team's collaborative delivery approach brings all stakeholders together early in the process. This helps reduce cost, accelerate the schedule, and maintain safety. Collaborative delivery requires a design-build mindset, ability to think project-first, and the flexibility to change course when necessary. Our team's expertise will allow BRWA to take advantage of the opportunities these collaborative methods bring. The following map illustrates a sampling of Garney and Wiley|Wilson's experience with projects completed through collaborative delivery methods, with many of these projects constructed in the Mid-Atlantic region.

Projects delivered via collaborative delivery methods have been a focus of the Garney and Wiley|Wilson team for more than 30 years, and account for more than \$5.8 billion worth of projects.



HONEY CREEK FORCE MAIN AND GRAVITY SEWER (PROGRESSIVE DESIGN-BUILD) - LITHONIA, GA: For this \$6M project, Garney met a fast-track schedule for design and construction of 17,300 LF of 18" sanitary force main which involved significant rock excavation and public relations.

SMITH MOUNTAIN LAKE WTP PIPELINES (DESIGN-BUILD) - BEDFORD, VA: As a result of Garney's design-build collaboration, this \$14.9M project was successfully completed on schedule and within budget and included 153,120 LF of 16" and 18" waterlines and trenchless installations. Garney interfaced with more than 60 property owners to ensure minimal impacts around each of their needs.

Having helped owners execute more than 400 collaborative delivery projects, Garney and Wiley|Wilson bring the expertise to foster an effective team with BRWA.



COMPARABLE EXPERIENCE

Garney and Wiley|Wilson's specialized experience designing, permitting, and self-performing construction of wastewater utility infrastructure is the ideal match for the demands of the Ivy Creek Interceptor. Beyond our experience, we are a trusted and proven partner to BRWA. We have successfully completed previous similar utility projects for BRWA and will leverage this experience to facilitate collaborative and value-driven solutions. The summary table below outlines projects of similar size and nature, and the following pages feature these comparable design and construction reference projects in further detail by the order listed in the chart.

PROJECT AND OWNER	VALUE	PROVEN PERFORMANCE AND PROJECT ELEMENTS						
		RESPONSIBLE FIRM	PIPE ≥ 24-INCHES IN DIAMETER	TRENCHLESS INSTALLATION	ROCK EXCAVATION	PROPERTY OWNER COORDINATION	COMMUNITY OUTREACH	M/WBE PARTICIPATION
Gravity Sewer System Rehabilitation - Package 3 (PROGRESSIVE DESIGN-BUILD) DeKalb County, GA	\$22,957,580							
Smith Mountain Lake WTP Pipelines, Contracts A-E (DESIGN-BUILD) Bedford Regional Water Authority, VA	\$14,956,193							N/A
Honey Creek Force Main & Gravity Sewer Improvements (DESIGN-BUILD) DeKalb County, GA	\$6,004,717							
Logan CSO Interceptor Louisville & Jefferson County Metropolitan Sewer District, KY	\$32,602,241							
Upper James River Interceptor City of Lynchburg, VA	\$31,605,414							
Upham Brook Trunk Sewer Henrico County, VA	\$22,989,251							N/A
Mill Creek Replacement of Gravity Sewer Improvements Metro Water Services, TN	\$7,781,387							
Burton Creek Interceptor City of Lynchburg, VA	\$5,505,870							
Royal Glen Pump Station Interceptor Hanover County, VA	\$4,851,000							
Lower Opossum Creek Interceptor Hanover County, VA	\$2,842,259							
Commonwealth Crossing Business Centre Wastewater Extension Henry County, VA	\$2,214,995							
Lynchburg Regional Interceptors City of Lynchburg, VA	Varies by Project							
Ivy Creek Interceptor - Division 5 & 6 PER Bedford Regional Water Authority, VA	Study		N/A -- Preliminary Engineering Report (PER)					
Blacks Run Interceptor Harrisonburg-Rockingham Regional Sewer Authority, VA	Study		N/A -- Master Plan					

 GARNEY  WILEY|WILSON



GRAVITY SEWER SYSTEM REHABILITATION, REPLACEMENT AND CONSTRUCTION - PACKAGE 3 (PROGRESSIVE DESIGN-BUILD) DECATUR, GEORGIA

As part of a \$1.3 billion mandated consent decree project with a deadline of June 20, 2020, Garney is serving as the progressive design-builder overseeing preconstruction and construction services for 2,000 LF of CIPP lining on 8" and 18" sewer lines, 112-point repairs with multiple existing pipe materials ranging from 8" to 36", and 29,000 LF of pipe replacement ranging from 8" to 36". The project entails multiple stream crossings, jack and bore installations, pipe bursting, aerial crossings, pipe encasements, and point repairs. Garney managed a significant rock excavation effort in excess of 1,000 CU YD's due to realignments of existing assets. This project is in a highly urban area and 8,000 LF of the work is within the immediate roadway requiring substantial traffic control and bypass setups in excess of 2,500 LF. Garney is also responsible for community outreach, which has consisted of obtaining right-of-entry permissions from each property owner.

Once the project reached the 60% design phase, the County elected to upsize the pipeline due to capacity models. This increase modified areas from 30" to 36" and the manholes were upsized from 60" to 72" and 84". Garney worked with the County to provide value engineering options, including using PVC in areas where DIP was originally specified to meet the budget constraints. This particular solution saved the County approximately \$450,000 and allowed the County to increase to the 36" diameter pipe in critical areas.

CLIENT CONTACT

DEKALB COUNTY, GA

Tiffany Ware

1300 Commerce Drive

Decatur, GA 30030

(770) 724-1469

DESIGN-BUILDER

GARNEY COMPANIES, INC.

ENGINEER

RIVER TO TAP (R2T) INC.

START DATE

OCTOBER 2018

COMPLETION DATE

MAY 2020

ORIGINAL CONTRACT

\$22,957,580

FINAL CONTRACT

\$22,957,580

KEY PERSONNEL AND ROLE

N/A





SMITH MOUNTAIN LAKE WTP PIPELINES, CONTRACTS A-E (DESIGN-BUILD) BEDFORD, VIRGINIA

To meet the growing water needs within the region by 2060, Garney was selected to install 153,120 LF (29 miles) of 16" and 18" PVC and ductile iron waterline, and 46 jack and bores totaling 2,710 LF with three creek crossings by jack and bore through rock. Garney served as a subcontractor to Overland Contracting.

Garney overcame challenges including meeting a tight schedule, steep terrain, and working within a constrained VDOT right-of-way. The schedule was a challenge from the start, as the required easements were not all obtained on time. While easement acquisition was not in Garney's contract, Garney rose to the challenge by providing additional pipe crews and equipment to ensure BRWA's deadline was met.

Garney met with more than 60 property owners along the route in advance of the work that would be occurring near or at their residences. This included Garney scheduling times to install the pipeline on their property, and offering excess dirt, fence or drainage repairs to restore their property to better conditions than present prior to construction. Garney also worked closely with VDOT to develop detailed, area-specific MOT plans along the route, including overnight MOT for the bore crossings.

CLIENT CONTACT

**BEDFORD REGIONAL WATER
AUTHORITY**

Brian Key

1723 Falling Creek Road
Bedford, VA 24523
(540) 586-6095

**DESIGN-BUILDER
OVERLAND CONTRACTING**

**SUBCONTRACTOR
GARNEY COMPANIES, INC.**

**ENGINEER
BLACK & VEATCH**

**START DATE
SEPTEMBER 2015**

**COMPLETION DATE
MAY 2017**

**ORIGINAL CONTRACT
\$14,956,193**

**FINAL CONTRACT
\$14,956,193**

KEY PERSONNEL AND ROLE

Steve Ford, Principal
Craig Harding, Project Engineer

"Bottom line, this is one of the best pipeline crews I've seen. Were I you, I would count myself successful and fortunate to have such good 'boots on the ground' people representing my business to residents (and the local Water Authority) of the communities where they work."

**- Richard Dale Rylander L.PE
(Property Owner in Bedford, VA)**



HONEY CREEK FORCE MAIN & GRAVITY SEWER IMPROVEMENTS (PROGRESSIVE DESIGN-BUILD) LITHONIA, GEORGIA

DeKalb County was in need of upgrading its sewer system to meet the County's anticipated sewer needs for the next 45 years. As progressive design-builder, Garney led all partnering meetings, value engineering and constructability reviews, cost estimates, scheduling, development of the guaranteed maximum price (GMP), and subcontractor management, and self-performing construction.

The pipeline included replacement of 16" DIP with 17,300 LF of 18" DIP sewer force main, as well as a gravity sewer replacement of 24" RCP with 6,400 LF of 30" DIP installed within streets which required traffic control, stone backfill, and concrete cap requirements, as well as public relations with residents. **A 2,000 LF section of pipe was routed through the Arabia Mountain Park preserve, which included rock excavation via blasting and hammering.** The rock required extra matting cover and proper execution to ensure safety and to the proper depths. This section also included one 80 LF open-cut creek crossing that required hoe-ramming rock excavation, installation of twenty 72" pre-cast manholes, and pavement and sod restoration. Construction also consisted of a new 7.5 MGD pump station in a 45' deep excavation.

Garney was tasked with meeting an extremely tight schedule. Design had to be completed within three months of award and construction had to be finished within one year of design to meet consent decree deadlines. Through collaboration, Garney was able to keep the original GMP intact and improve the substantial completion date by more than 20 days. Challenges overcome on this project were traffic control on a major urban roadway, extensive bypass pumping, and interacting with homeowners. Garney met all of these challenges through proper planning and ensuring the impacted community was kept abreast during the construction process.

CLIENT CONTACT

DEKALB COUNTY, GA

Pavel Vayner

1300 Commerce Drive

Decatur, GA 30030

(770) 414-2396

DESIGN-BUILDER

GARNEY COMPANIES, INC.

ENGINEER

TETRA TECH, INC.

START DATE

SEPTEMBER 2016

COMPLETION DATE

OCTOBER 2018

ORIGINAL CONTRACT

\$6,215,132

FINAL CONTRACT

\$6,004,717

KEY PERSONNEL AND ROLE

N/A

"On the current project, Garney has once again put the goals of our County to the forefront. Future projected line capacity changes after project award posed a substantial issue to the project's original budget. Through value engineering ideas, Garney has been able to incorporate the additional work while staying within the County's original budget. We commend Garney for their ability to put the goals of the project first."

- Reginald Wells (Director - DeKalb County Department of Watershed Management)

This project won the 2019 Design-Build Excellence Award for Best Pipeline Project (DBIA Southeast Region).



LOGAN CSO INTERCEPTOR

LOUISVILLE, KENTUCKY

With more than 3,200 miles of sanitary sewer lines in service, the Metropolitan Sewer District (MSD) collects wastewater from more than 270,000 in the Louisville metropolitan area. As is the case with many sewer systems throughout the country, MSD entered an Amended Consent Decree in 2009 with the Kentucky Division of Water and US Environmental Protection Agency to meet the requirements of the Clean Water Act. Project WIN (Waterway Improvements Now) was formed as a complete sewer improvement program to spearhead the task of being in compliance with EPA standards. *The Logan CSO Interceptor Project was part of the program and consisted of the installation of 10,885 LF of PCCP and PVC combined gravity sewer ranging from 24" to 96" in diameter to convey flow from 12 combined sewer overflows to a future basin site.*

The alignment was within and along the Germantown area of Louisville which required small sections of bores and hand tunnels due to the location. As part of the collection of the combined sewer overflows, the scope of work included the installation of numerous junction structures, diversion structures, control vaults, and electrical utility services. The project also included extensive removal and replacement of the improved concrete channel in the South Fork of Beargrass Creek, various water control and dewatering systems, excavations up to 35 vertical feet using multiple shoring systems, erosion and sediment control, some rock excavation via hoe ramming, minor bypass pumping, and various surface restoration including both asphalt paving and concrete flatwork.

**Owner-initiated change orders entailed additional scope of work, including increased pipe sizes, realignments, additional flow control items, and existing utility relocations.*

CLIENT CONTACT

LOUISVILLE & JEFFERSON
COUNTY METROPOLITAN
SEWER DISTRICT

William Marshall, PE

700 W. Liberty Street
Louisville, KY 40203
(502) 540-6608

GENERAL CONTRACTOR
GARNEY COMPANIES, INC.

ENGINEER
HDR ENGINEERING, INC.

START DATE
SEPTEMBER 2014

COMPLETION DATE
DECEMBER 2017

ORIGINAL CONTRACT
\$29,431,087

FINAL CONTRACT
***\$32,602,241**

KEY PERSONNEL AND ROLE

Steve Ford, Principal
Jordan Carrier, Project Manager





UPPER JAMES RIVER INTERCEPTOR

CITY OF LYNCHBURG, VIRGINIA

The existing James River Interceptor (JRI) extends along the James River and CSX railroad tracks from the City's wastewater treatment plant to the Judith Creek Interceptor near the City of Lynchburg/Bedford County line. The interceptor includes six divisions with Divisions 1, 2, and 3 extending from the wastewater treatment plant to Blackwater Creek and Divisions 4, 5, and 6 extending from Blackwater Creek to the Judith Creek Interceptor.

Divisions 4, 5, and 6 were the subject of this evaluation and are collectively referred to as the Upper JRI. These three divisions are from the Blackwater Creek crossing (Griffin Pipe) to Judith Creek (Bedford County line). Wiley|Wilson assisted with the survey, evaluation, and design for the replacement of 22,000 feet of the existing 24" and 36" sewer line.

A unique challenge for this project was the very tight corridor working area between the railroad tracks and the James River. The team has to provide bank stabilization in several locations due to the proximity of the interceptor to the river. The majority of the alignment was on railroad property with significant sections of the line within the railroad zone of influence, which required special shoring and excavation considerations.

Throughout the design and construction of the entire James River Interceptor, Wiley|Wilson provided value as the City of Lynchburg's partner in accomplishing the largest infrastructure program in the City's history. **Scheduled completion dates vary by division.*

**These projects required change orders, including riverbank stabilization along the James River and delays associated with tunneling under the CSXT tracks.*

CLIENT CONTACT

CITY OF LYNCHBURG, VA

Scott Parkins, PE

525 Taylor Street
Lynchburg, VA 24501
(434) 455-4248

ENGINEER

WILEY|WILSON

ORIGINAL CONTRACT (DIVISIONS 4,5,6)

\$25,293,000

FINAL CONTRACT (DIVISIONS 4,5,6)

***\$31,605,414**

KEY PERSONNEL AND ROLE

Keith Thompson, Project Manager
Dennis Knight, Civil Engineer
Wayne Massie, Civil Engineer
Brian Harvey, Surveyor
Chris Bryan, Surveyor



UPHAM BROOK TRUNK SEWER

RICHMOND, VIRGINIA

This project includes the installation of 12,180 LF of 48", 1,520 LF of 54", and 60 LF of 66" Hobas CCFRPM gravity sewer, two cast-in-place diversion structures installed totaling 53 vertical feet, five 72" microtunnels involving numerous roadways and a CSX railroad crossing for 350 LF, and a 90" hand tunnel for 117 LF. This scope also included the rehabilitation of existing utilities including 2,450 LF of 8" sewer requiring point repair work using CIPP, rehabilitation of sewer services and 67 existing manholes ranging from 48" to 108", and replacement of existing water systems that were in conflict with the new trunk sewer.

The project required 70 MGD of bypass pumping, clearing and grubbing, erosion control, vehicular stream crossings of Upham Brook, wetland impacts and restoration, stream bank stabilization, rock excavation, dewatering, sheet and H-piling, traffic control, and pavement restoration.

* Owner-initiated change orders entailed additional scope of work, including relocation of unknown existing utilities, revised erosion control measures, additional rehabilitation efforts, and an extended trenchless crossing.

CLIENT CONTACT

COUNTY OF HENRICO, VA

Jason Garofalo, PE

10401 Woodman Road

Glen Allen, VA 20151

(804) 349-2259

GENERAL CONTRACTOR

GARNEY COMPANIES, INC.

ENGINEER

WHITMAN, REQUARDT &
ASSOCIATES, LLP

START DATE

AUGUST 2018

COMPLETION DATE

NOVEMBER 2020

ORIGINAL CONTRACT

\$22,651,000

FINAL CONTRACT

*\$22,989,251

KEY PERSONNEL AND ROLE

Steve Ford, Principal

Jordan Carrier, Operations Manager

Mike Hall, Senior Superintendent

Craig Harding, Assistant Project
Manager





MILL CREEK REPLACEMENT OF GRAVITY SEWER IMPROVEMENTS NASHVILLE, TENNESSEE

This project included the replacement of an existing 30" PVC gravity sewer line with the installation of 23,347 LF of 48" and 36" HOBAS gravity sewer line at an average depth of 17 feet. The project also included 69 manholes up to 12' in diameter, six creek crossings, four tributary crossings, three open cut road crossings, and 240 LF of auger jack and bore under a roadway. This entailed bypass pumping in 11 sections rated at greater than 5K gallons per minute to keep the existing line in service, as well as extensive erosion and sediment control measures to minimize impact to the surrounding environment, including stream bank restoration with structural toe of slope stabilization and planting of live stakes.

**Owner-initiated change orders included final quantity adjustments to those above initial contract quantity, material substitutions, and revised restoration requirements.*

CLIENT CONTACT

METRO WATER SERVICES

Cyrus Toosi

1700 3rd Ave North
Nashville, TN 37208
(615) 862-4909

GENERAL CONTRACTOR

GARNEY COMPANIES, INC.

ENGINEER

STANTEC

START DATE

AUGUST 2010

COMPLETION DATE

MARCH 2012

ORIGINAL CONTRACT

\$7,352,187

FINAL CONTRACT

*\$7,781,387

KEY PERSONNEL AND ROLE

Steve Ford, Principal
Jordan Carrier, Project Engineer





BURTON CREEK INTERCEPTOR

LYNCHBURG, VIRGINIA

The Burton Creek Interceptor Sewer is a 24" to 36" diameter interceptor sewer in Lynchburg that serves Liberty University and the fastest growing area of the city. The high level of growth in the sewershed, as well as the deterioration of the interceptor, has caused significant capacity issues. To address the challenges of this main, Wiley|Wilson identified the current level of service (LOS), established a target LOS, developed alternatives for LOS achievement, and generated remediation plans for the selected alternative.

Our team performed a Sanitary Sewer Evaluation Study of the entire sewershed (>70,000 LF) to assess the condition of the sewer infrastructure and to locate and quantify sources of extraneous flows reducing the capacity of the system. The evaluation included a comprehensive survey of the existing infrastructure, smoke testing, pole camera manhole inspections, dye testing, CCTV inspections, and night flow isolations.

Based on the PER results, the City engaged our team to provide design, construction administration, and full time inspection services for the recommended improvements. This included design of 2,000 LF of 18" CIPP and 12,000 LF of 24" and 30" interceptor sewer replacement. We provided stakeholder outreach and surveying services. Our consultant team assisted with the geotechnical services and environmental assessment including streambank restoration.

The alignment included crossings of two major restricted access highway crossings, one major road crossing, multiple secondary road crossings, and one railroad crossing.

**This project included a \$281,000 change order per the Owner's request to add stream restoration. Excluding this Owner-directed change, the project's change order percentage of project cost was 0.83%.*

CLIENT CONTACT

CITY OF LYNCHBURG, VA

Eric Schrader, PE

525 Taylor Street
Lynchburg, VA 24501
(434) 455-4089

ENGINEER

WILEY|WILSON

START DATE

JULY 2010

COMPLETION DATE

NOVEMBER 2018

ORIGINAL CONTRACT

\$5,150,153

FINAL CONTRACT

***\$5,505,870**

KEY PERSONNEL AND ROLE

Dennis Knight, Principal

Keith Thompson, Project Manager

Wayne Massie, Civil Engineer

Brian Harvey, Surveyor





ROYAL GLEN PUMP STATION INTERCEPTOR

HANOVER COUNTY, VIRGINIA

Wiley|Wilson completed the design of approximately 10,000 LF of 30" and 36" sewer line for Hanover County Department of Public Utilities from the Lower Opossum Creek Interceptor to the County's Pump Station #5. The sewer runs along Totopotomoy Creek parallel to the Dominion Power transmission line crossing Route 301 and Cool Spring Road.

Design considerations included wetland impacts, endangered species, historical resources, boring Route 301 and Cool Spring Roads and a CSX Railroad crossings, several crossings of Totopotomoy Creek and access points for construction. Coordination with Dominion Power was required to avoid impacts to the transmission line. All surveying, design, construction administration, and easement plat preparation were completed in-house by Wiley|Wilson staff.

Permitting involved the Army Corp of Engineers, the Department of Environmental Quality, DGIF, VMRC, DHR, and VDOT. Erosion and sediment control and storm water is being reviewed by the County.

**Due to the project's location along a creek/swamp area, wet weather in 2018 and 2019 delayed the start of the project until Summer of 2019. The project is currently ongoing and final contract and completion dates have not yet been established.*

CLIENT CONTACT

HANOVER COUNTY, VA

Steven Herzog

7516 County Complex Road
Hanover, VA 23069
(804) 365-6022

ENGINEER

WILEY|WILSON

START DATE

***JUNE 2018**

ORIGINAL CONTRACT

\$4,851,000

CURRENT CONTRACT

\$4,851,000

KEY PERSONNEL AND ROLE

Dennis Knight, Principal
Wayne Massie, Civil Engineer
Ted Elshof, Civil Engineer
Brian Harvey, Surveyor
Chris Bryan, Survey Party Chief



LOWER OPOSSUM CREEK INTERCEPTOR

HANOVER COUNTY, VIRGINIA

Wiley|Wilson conducted a Preliminary Engineering Report to determine the best alternative for conveying wastewater from the existing Avondale Pump Station to the existing Shelton Point Pump Station. The location is in Hanover County's Suburban Service Area just north of Henrico County and the City of Richmond. The alternatives studied were various combinations of gravity sewer, pump station, and force mains, with the goal being the determination of the least environmentally damaging practicable alternative with the lowest life cycle cost.

Important factors considered in the PER and design were impacts to jurisdictional wetlands and cultural resources, and impacts to private property owners and the owners of other utilities in the area. ***The PER resulted in our team performing the design and construction administration of approximately 14,000 LF of 36" gravity sewer interceptor capable of conveying at least 12 MGD in the future.***

Permitting involved the U.S. Army Corps of Engineers, the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, the Virginia Department of Historic Resources, and the Virginia Department of Transportation. Other Federal and state agencies commented on the environmental permits filed with VMRC, COE, and DEQ. Local erosion and sediment control review was required. Construction administration included assisting the County with the bid process, review of the bids, and assisting the County with the award of the construction contract. Final inspection and project closeout were the final work activities.

**Owner-initiated change order to increase streambank stabilization measures per ACOE requirements imposed after the project was bid.*

CLIENT CONTACT

HANOVER COUNTY, VA

Gary Craft

7516 County Complex Road
Hanover, VA 23069
(804) 365-6236

ENGINEER

WILEY|WILSON

START DATE

OCTOBER 2008

COMPLETION DATE

JANUARY 2010

ORIGINAL CONTRACT

\$2,803,800

FINAL CONTRACT

*\$2,842,259

KEY PERSONNEL AND ROLE

Wayne Massie, Civil Engineer



COMMONWEALTH CROSSING BUSINESS CENTRE WASTEWATER EXTENSION

HENRY COUNTY, VIRGINIA

Wiley|Wilson designed approximately 28,000 LF of 12" ductile iron waterline and 24,000 LF of gravity sewer to serve Henry County's Commonwealth Crossing Business Centre, a mega-site located in Henry County, just north of the North Carolina Border.

The waterline parallels Magna Vista School Road, Lee Ford Camp Road, Lilly Road, and Greensboro Road (US 220) from the existing water distribution system to the Commonwealth Crossing Business Centre. The waterline extension also loops back in to the Service Authority's Ridgeway System to help with improvements to low chlorine residuals.

The gravity sewer parallels Marrowbone Creek and a tributary to Marrowbone Creek from the existing wastewater collection system to the Commonwealth Crossing Business Centre.

Our professional design services included preparation of a preliminary engineering report, an environmental narrative in accordance with Economic Development Administration requirements, and engineering design. Permits were obtained from the Virginia Department of Transportation, Norfolk-Southern Railway (three jack and bore crossings of the railway), the Army Corps of Engineers, the Virginia Marine Resources Commission, and the Virginia Department of Environmental Quality.

**The Owner requested that the contractor install an additional directional bore to provide service to an additional area of the industrial park at a cost of \$272,000. Excluding this change, the project change order percentage is 0.6%.*

CLIENT CONTACT

HENRY COUNTY, VA

Tim Pace

3300 Kings Mountain Road
Colinsville, VA 24078
(276) 634-2559

ENGINEER

WILEY|WILSON

START DATE

JULY 2011

COMPLETION DATE

APRIL 2012

ORIGINAL CONTRACT

\$1,929,340

FINAL CONTRACT

*\$2,214,995

KEY PERSONNEL AND ROLE

Wayne Massie, Civil Engineer



LYNCHBURG REGIONAL INTERCEPTORS

LYNCHBURG, VIRGINIA

Wiley|Wilson has provided the evaluation, design, bidding phase services, and construction administration services for the replacement of 26 miles of the City's four major interceptor sewers including the Ivy Creek Interceptor. In fact, the engineer who designed and oversaw construction of the original Ivy Creek Interceptor project will be leading the design of the Ivy Creek Division 5 and 6 project.

The design of the interceptors included the modeling of the City's sewer network to increase the capacity of the main interceptors to reduce the frequency of overflows.

The successful design and administration of these projects required coordination with groups of stakeholders including City of Lynchburg personnel, Virginia Department of Environmental Quality, Army Corps of Engineers, CSX railroad, Norfolk Southern railroad, businesses, citizens, and contractors.

Some of the unique challenges of these projects included the design of multiple tunneling operations under existing railroad features and city streets, structural riverbank stabilization design for the south bank of the James River, and the coordination and design of large diameter installations within City streets and parks. **Scheduled completion dates, contract amounts, and general contractors vary by project.*

CLIENT CONTACT

CITY OF LYNCHBURG, VA

Scott Parkins, PE

525 Taylor Street
Lynchburg, VA 24501
(434) 455-4248

ENGINEER

WILEY|WILSON

KEY PERSONNEL AND ROLE

Dennis Knight, Principal
Keith Thompson, Project Manager
Wayne Massie, Civil Engineer
Brian Harvey, Surveyor
Matthew McGarry, Civil Engineer

- ▶ **James River Divisions 1, 2A, 2B, 3A, 3B, 4, 5, 6** - Planning, design, and construction administration for 32,000 LF of 24" to 84" sewer interceptor.
- ▶ **Ivy Creek Divisions 1, 2, 3, 4** - Planning, design, and construction administration for 24,000 LF of 24" to 36" Ivy Creek Interceptor and cost reimbursement requirements for Counties.
- ▶ **Blackwater Creek Divisions 1, 2, 3, 4, 5, 6A, 6B, 7, 8A, 8B** - Planning, design, and construction administration for 50,000 LF of 36" to 60" sewer interceptor.
- ▶ **Fishing Creek Divisions 1, 2A, 2B, 3, 4, 5** - Planning, design, and construction administration of over 18,600 LF of 48" sewer interceptor including 870 feet of tunneling.
- ▶ **Cheese Creek Divisions 1, 2, 3, 4, 5, 6, 7, 8'** - Planning, design, and construction administration for 23,700 LF of 18" and 12" sewer interceptor.
- ▶ **G.E. Trunk Line Extension** - Planning, design, and construction administration of extension that included 1,800 LF of 30" pipe.
- ▶ **Judith Creek Phase 1 Extension** - Planning, design, and construction administration of extension that included 3,600 LF of 18" pipe.



IVY CREEK INTERCEPTOR - DIVISION 5 & 6 PRELIMINARY ENGINEERING REPORT (PER)

BEDFORD, VIRGINIA

The Bedford Regional Water Authority wanted to evaluate the extension of a gravity interceptor along Ivy Creek from the upstream end of the City of Lynchburg's Ivy Creek Division 4 interceptor to the Authority's Lake Vista pump station (LVPS). This project has been part of BRWA's long-term plan for over 15 years. Construction of this gravity interceptor will allow the Forest area to be served by gravity, and the LVPS to be shutdown and taken off-line.

Wiley|Wilson prepared a Preliminary Engineering Report that provided recommendations for serving the Forest and New London areas for the next 50+ years. This report evaluated the replacement of the LVPS with gravity sewer service along Ivy Creek. The scope of services included:

- ▶ Base mapping for use in the evaluation of interceptor route alternatives
- ▶ Providing descriptions of the service area, existing conditions, and flow projections
- ▶ Developing a preliminary layout for Ivy Creek Division 5 (within the City) and Division 6 (within the County)
- ▶ Coordinating with VDOT, the City of Lynchburg, Bedford County, and local utility providers
- ▶ Conducting environmental, threatened and endangered species, and cultural resources reviews

CLIENT CONTACT

BEDFORD REGIONAL WATER AUTHORITY

Rhonda English

1723 Falling Creek Road
Bedford, VA 24523
(540) 586-5805

ENGINEER

WILEY|WILSON

START DATE

OCTOBER 2018

COMPLETION DATE

JANUARY 2020

KEY PERSONNEL AND ROLE

Dennis Knight, Principal
Aaron Tice, Project Manager
Keith Thompson, Civil Engineer
Wayne Massie, Civil Engineer
Matthew McGarry, Civil Engineer



BLACKS RUN INTERCEPTOR

MOUNT CRAWFORD, VIRGINIA

Wiley|Wilson worked with Harrisonburg-Rockingham Regional Sewer Authority (HRRSA) to develop a master plan to evaluate the major HRRSA interceptors and provide a plan to achieve a 10-year Level of Service (LOS) and support growth in key areas important to HRRSA's member localities. Existing interceptors range in size from 24" to 54". The project included preparing a preliminary engineering report to upsize the main interceptors with 48,700 LF of proposed lines ranging from 48" to 72".

In response to the environmental concerns identified in the LOS Master Plan and CMOM program, Wiley|Wilson completed a Preliminary Engineering Report (PER) for the Division 1 and Division 2 projects identified in the LOS Master Plan. The PER included preliminary design, environmental due diligence investigation and stakeholder coordination for Blacks Run Interceptor Divisions 1 and 2, which included 11,300 LF of 48" interceptor installation and 2,900 LF of 36" sewer lining and manhole rehabilitation. We also assisted HRRSA in securing state revolving fund financing.

Wiley|Wilson is assisting HRRSA with the design of the Division 1 project which is scheduled to begin construction in June 2020. We assisted HRRSA with extensive coordination with both private and local government stakeholders. The project will impact a City park, a major intersection, transfer and recycle station, and a mixed use trail system in the vicinity of James Madison University. In addition to design and construction phase services, we are providing survey, geotechnical investigation and easement acquisition.

CLIENT CONTACT

HARRISONBURG-ROCKINGHAM REGIONAL SEWER AUTHORITY

Sharon Foley

P.O. Box 8

Mount Crawford, VA 22841

(540) 434-1053

ENGINEER

WILEY|WILSON

START DATE (DESIGN)

JUNE 2019

ESTIMATED COMPLETION DATE (DESIGN)

MAY 2020

KEY PERSONNEL AND ROLE

Dennis Knight, Principal

Aaron Tice, Project Manager

Keith Thompson, Civil Engineer

Wayne Massie, Civil Engineer

Ted Elshof, Civil Engineer

Matthew McGarry, Civil Engineer

Brian Harvey, Surveyor

Chris Bryan, Survey Party Chief



QUALIFICATIONS AND EXPERIENCE— CORPORATE/CONTACT INFORMATION

KEY LEADER CONTACT INFORMATION

iii. Provide the names, mailing addresses, physical addresses, email addresses, and telephone numbers of all persons within the firm or consortium of firms who may be contacted for further information.

Contact information for key team leaders is outlined to the right. As team leaders, they will be responsible for the overall success and seamless coordination with project partners, ensuring that manpower is available throughout design and construction. Garney and Wiley|Wilson leaders bring experience working with BRWA and experience overseeing design-build projects—they will leverage this comprehensive insight to foster an effective partnership among all stakeholders.

FINANCIAL STATEMENT

iv. Provide a current audited financial statement of the firm or firms and each partner with an equity interest of twenty percent or greater.

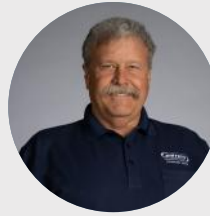
Having been in business since 1961, Garney has built a solid financial foundation that is rare in this industry. Our strong banking and bonding relationships allow Garney to be a single source contractor for our clients on water and wastewater projects of any size. As a 100% employee owned company, Garney has no partners with an equity interest of twenty percent or greater. *(Copies of Garney and Wiley|Wilson's most recent financial statements are included in separate sealed envelopes. We request this remain confidential.)*

VIRGINIA STATE AND LOCAL GOVERNMENT CONFLICT OF INTEREST ACT STATEMENT

v. Identify any persons known to the proposer who would be obligated to disqualify themselves from participation in any transaction arising from or in connection to the project pursuant to the Virginia State and Local Government Conflict of Interest Act, Va. Code §2.2-3100 through §2.2-3131, as amended ("VSLGCIA").

On behalf of Garney Companies, Inc., and our partner firms, we have no known persons who would be obligated to disqualify themselves from participation in any transaction arising from or in connection to the project pursuant to the Virginia State and Local Government Conflict of Interest Act, Va. Code §2.2-3100 through §2.2-3131, as amended ("VSLGCIA").

KEY LEADER CONTACTS



STEVE FORD PRINCIPAL-IN-CHARGE

Garney Companies, Inc.
4515 Daly Drive, Suite K
Chantilly, VA 20151
703.659.8490
sford@garney.com



DENNIS KNIGHT, PE PRINCIPAL-IN-CHARGE

Wiley|Wilson
127 Nationwide Drive
Lynchburg, VA 24502
434.947.1617
dknight@wileywilson.com



JORDAN CARRIER PROJECT DIRECTOR

Garney Companies, Inc.
4515 Daly Drive, Suite K
Chantilly, VA 20151
703.794.6190
jcarrier@garney.com



SECTION B

PROJECT CHARACTERISTICS

PROJECT CHARACTERISTICS

IVY CREEK INTERCEPTOR

PROJECT UNDERSTANDING

i. Provide a description of the project, including the conceptual design. Describe the proposed project in sufficient detail so that type and intent of the project, the location, and the communities that may be affected are clearly identified.

The Bedford Regional Water Authority (BRWA) provides wastewater service to the Forest and New London service areas on the eastern side of Bedford County adjacent to the City of Lynchburg. BRWA owns capacity in the City of Lynchburg's interceptor system and the Regional Wastewater Treatment Plant (WWTP) where wastewater is conveyed and treated.

At this time, BRWA collects nearly all of the wastewater from these service areas at the Lake Vista Pump Station (LVPS), which is located next to Ivy Creek, and pumps it to the City's Tomahawk Creek Interceptor. Due to difficult pumping conditions and odor control requirements, BRWA incurs significant maintenance and operational expenses at the LVPS in addition to routine pumping costs.

The Ivy Creek Division 5 and Division 6 interceptor projects will allow BRWA to abandon the LVPS, and the attendant operational and pumping costs, and convey wastewater by gravity to the City's Ivy Creek Interceptor. Division 5 is the portion of the project in the City, and Division 6 is the portion of the project located in the County. The interceptor will collect wastewater at the LVPS and convey it to the existing Ivy Creek Division 4 interceptor. The interceptor will be designed to meet the BRWA service area demand for the next 50+ years.

[Additional information is deemed proprietary--please reference Volume 2.]

SITE PLAN

ii. Provide drawings and/or mapping which shows the location of the project, a site plan of the project (if applicable), the conceptual layout of the project, and any other plans that are needed to adequately show the scope of the project.

[This information is deemed proprietary--please reference Volume 2.]

AUTHORITY RESPONSIBILITIES

iii. Identify and fully describe any work to be performed by the Authority.

Work to be performed by BRWA includes:

- 1 BRWA is responsible for project funding to include construction, design, permits, construction administration, permanent and temporary easement acquisition, and land acquisition.
- 2 Provide independent construction inspection.
- 3 Provide independent geotechnical and special inspections during constructions.
- 4 Provide potable water from existing connections for construction and testing purposes.
- 5 Provide permanent electrical service and communications to the flume station.
- 6 Provide environmental or cultural resources assessments (if required).

PERMITTING

iv. Include a list of all federal, state, and local permits and approvals required for the project and a schedule for obtaining such permits and approvals.

The Ivy Creek Division 5 and Division 6 Interceptor PER did not identify any significant issues of concern for obtaining permits for the project.

- ▶ DEQ Certificate to Construct (CTC) – Obtain prior to construction.
- ▶ DEQ Certificate to Operate (CTO) – Obtain following substantial completion.
- ▶ USACE Nationwide 12 Permit – Obtain prior to construction.
- ▶ Virginia Stormwater Management Program (VSMP) Permit - Obtain prior to construction.
- ▶ VDOT Land Use Permit - Obtain prior to construction.
- ▶ Bedford County Land Disturbance Permit - Obtain prior to construction.
- ▶ Bedford County Blasting Permit - Obtain prior to construction.

- ▶ City of Lynchburg Land Disturbance Permit - Obtain prior to construction.
- ▶ City of Lynchburg Blasting Permit - Obtain prior to construction.

ADVERSE SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

v. Identify any anticipated adverse social, economic, and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts of the project.

There are no anticipated adverse social, economic, and environmental impacts of the project.

POSITIVE SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

vi. Identify the projected positive social, economic, and environmental impacts of the project.

The Ivy Creek Division 5 and Division 6 Interceptor project will support residential and commercial growth in the existing and future service areas for the next 50+ years. It will also reduce operational and maintenance expenses. Decommissioning the Lake Vista Pump Station eliminates the cost of pumping as well as annual maintenance costs for rebuilding pumps.

The project will allow BRWA to transition from a complex pumped system that requires constant attention to protect against environment impacts to a simple gravity system that decreases the risk of environment impacts.

SCHEDULE

vii. Identify the proposed schedule for the work on the project, including the estimated time for completion.

[This information is deemed proprietary--please reference Volume 2.]

ALLOCATION OF RISK AND LIABILITY

viii. Propose allocation of risk and liability for work completed beyond the agreements, completion date, and assurances for timely completion of the project.

[This information is deemed proprietary--please reference Volume 2.]

OWNERSHIP ASSUMPTIONS

ix. State assumptions related to ownership, legal liability, law enforcement, operation of the project, and the existence of any restrictions on the Authority's use of the project.

[This information is deemed proprietary--please reference Volume 2.]

PHASED OR PARTIAL OPENINGS

x. Provide information relative to phased or partial openings of the proposed project prior to completion of the entire work.

[This information is deemed proprietary--please reference Volume 2.]

ADDITIONAL ASSUMPTIONS

xi. List any other assumptions relied on for the project to be successful.

[This information is deemed proprietary--please reference Volume 2.]

CONTINGENCIES

xii. List any contingencies that must occur for the project to be successful.

[This information is deemed proprietary--please reference Volume 2.]

ROUTE 460 PUMP STATION

PROJECT UNDERSTANDING

i. Provide a description of the project, including the conceptual design. Describe the proposed project in sufficient detail so that type and intent of the project, the location, and the communities that may be affected are clearly identified.

The Route 460 Pump Station includes a new 2.0 MGD water distribution booster pump station, sized to handle up to 7 MGD near state route 460 in Bedford, at the end of East Crest Drive. The work shall include provision of three horizontal split case pumps, pump appurtenances, free-standing workstation bridge crane, new electrical service drop, limited site work and a new access driveway. The pump station is designed to pump to and from several different locations and will provide much needed flexibility to the BRWA water distribution system.

The cost to construct the Route 460 Pump Station is based on the drawings and specifications dated June 2018 and as further outlined in Section C, Estimating Methodology.

SITE PLAN

ii. Provide drawings and/or mapping which shows the location of the project, a site plan of the project (if applicable), the conceptual layout of the project, and any other plans that are needed to adequately show the scope of the project.

[This information is deemed proprietary--please reference Volume 2.]

AUTHORITY RESPONSIBILITIES

iii. Identify and fully describe any work to be performed by the Authority.

[This information is deemed proprietary--please reference Volume 2.]

PERMITTING

iv. Include a list of all federal, state, and local permits and approvals required for the project and a schedule for obtaining such permits and approvals.

[This information is deemed proprietary--please reference Volume 2.]

ADVERSE SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

v. Identify any anticipated adverse social, economic, and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts of the project.

There are no anticipated adverse social, economic, and environmental impacts of the project.

POSITIVE SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

vi. Identify the projected positive social, economic, and environmental impacts of the project.

[This information is deemed proprietary--please reference Volume 2.]

SCHEDULE

vii. Identify the proposed schedule for the work on the project, including the estimated time for completion.

[This information is deemed proprietary--please reference Volume 2.]

ALLOCATION OF RISK AND LIABILITY

viii. Propose allocation of risk and liability for work completed beyond the agreements, completion date, and assurances for timely completion of the project.

[This information is deemed proprietary--please reference Volume 2.]

OWNERSHIP ASSUMPTIONS

ix. State assumptions related to ownership, legal liability, law enforcement, operation of the project, and the existence of any restrictions on the Authority's use of the project.

[This information is deemed proprietary--please reference Volume 2.]

PHASED OR PARTIAL OPENINGS

x. Provide information relative to phased or partial openings of the proposed project prior to completion of the entire work.

[This information is deemed proprietary--please reference Volume 2.]

ADDITIONAL ASSUMPTIONS

xi. List any other assumptions relied on for the project to be successful.

[This information is deemed proprietary--please reference Volume 2.]

CONTINGENCIES

xii. List any contingencies that must occur for the project to be successful.

[This information is deemed proprietary--please reference Volume 2.]



SECTION C

PROJECT FINANCING

PROJECT FINANCING

IVY CREEK INTERCEPTOR ESTIMATING METHODOLOGY

i. Provide a preliminary estimate and estimating methodology of the cost of the work by phase, segment, or both.

[This information is deemed proprietary--please reference Volume 2.]

FINANCING PLAN

ii. Submit a plan for the Development, financing, and Operation of the project showing the anticipated schedule on which funds will be required. The operational plan should include appropriate staffing levels and associated costs. Include supporting due diligence studies, analyses, or reports. Describe the anticipated costs of and proposed sources and uses for such funds.

[This information is deemed proprietary--please reference Volume 2.]

FINANCING ASSUMPTIONS

iii. Include a list and discussion of assumptions underlying all major elements of the plan. Assumptions should include all significant fees associated with financing given the recommended financing approach. In addition complete disclosure of interest rate assumptions should be included. Any ongoing operational fees if applicable, should also be disclosed as well as any assumptions with regard to increases in such fees.

[This information is deemed proprietary--please reference Volume 2.]

MITIGATING RISK FACTORS

iv. Identify the proposed risk factors and methods for dealing with these factors.

[This information is deemed proprietary--please reference Volume 2.]

LOCAL, STATE, AND FEDERAL RESOURCES

v. Identify any local, state, or federal resources that the proposer contemplates requesting for the project. Describe the total commitment, if any, expected from governmental sources and the timing of any anticipated commitment. Such disclosure should include any direct or indirect guarantees or pledges of the Authority's credit or revenue.

Not applicable to this project.

TERMS AND CONDITIONS OF REVENUE SOURCES

vi. Identify the amounts and terms and conditions for any revenue sources.

Not applicable to this project.

TAX-EXEMPT FINANCING

vii. Identify any aspect of the project that could disqualify the project from obtaining tax-exempt financing.

Garney anticipates that this project will qualify for sales tax exemption under Article 5, Section 58.1-3660 of the Code of Virginia and has excluded sales tax on permanent materials from the cost proposal. Garney will lead the effort and communications with the Department of Environmental Quality and the Department of Taxation to procure the appropriate tax exemption certificate for this project.

ROUTE 460 PUMP STATION

ESTIMATING METHODOLOGY

i. Provide a preliminary estimate and estimating methodology of the cost of the work by phase, segment, or both.

[This information is deemed proprietary--please reference Volume 2.]

FINANCING PLAN

ii. Submit a plan for the Development, financing, and Operation of the project showing the anticipated schedule on which funds will be required. The operational plan should include appropriate staffing levels and associated costs. Include supporting due diligence studies, analyses, or reports. Describe the anticipated costs of and proposed sources and uses for such funds.

[This information is deemed proprietary--please reference Volume 2.]

FINANCING ASSUMPTIONS

iii. Include a list and discussion of assumptions underlying all major elements of the plan. Assumptions should include all significant fees associated with financing given the recommended financing approach. In addition complete disclosure of interest rate assumptions should be included. Any ongoing operational fees if applicable, should also be disclosed as well as any assumptions with regard to increases in such fees.

[This information is deemed proprietary--please reference Volume 2.]

MITIGATING RISK FACTORS

iv. Identify the proposed risk factors and methods for dealing with these factors.

[This information is deemed proprietary--please reference Volume 2.]

LOCAL, STATE, AND FEDERAL RESOURCES

v. Identify any local, state, or federal resources that the proposer contemplates requesting for the project. Describe the total commitment, if any, expected from governmental sources and the timing of any anticipated commitment. Such disclosure should include any direct or indirect guarantees or pledges of the Authority's credit or revenue.

Not applicable to this project.

TERMS AND CONDITIONS OF REVENUE SOURCES

vi. Identify the amounts and terms and conditions for any revenue sources.

Not applicable to this project.

TAX-EXEMPT FINANCING

vii. Identify any aspect of the project that could disqualify the project from obtaining tax-exempt financing.

Sales taxes have been included in the Route 460 Pump Station proposal as we do not expect it to meet the appropriate tax exemption articles of the Code of Virginia.



SECTION D

PUBLIC SUPPORT AND OPPOSITION

PUBLIC SUPPORT AND OPPOSITION

IVY CREEK INTERCEPTOR

BENEFIT TO BRWA AND THE COMMUNITY

i. Identify who will benefit from the project, how they will benefit, and how the project will benefit the overall community, region, or state.

The customers of the BRWA will benefit from a wastewater interceptor that supports residential and commercial growth for the next 50+ years. The interceptor will also reduce the risk of environmental impact by replacing a complex pump station with a simple gravity sewer.

BRWA will benefit from reduced operations and maintenance requirements associated with the Lake Vista Pump Station (LVPS). Due to difficult operating conditions, BRWA re-builds pumps on an annual basis. This is much more frequent than the industry norm, which is typically 5 to 10 years. Further, the pump station uses a complex pumps-in-series configuration which increases maintenance costs and requires constant attention. Shutting down LVPS will reduce manpower requirements to operate the pump station and the constant maintenance costs needed to prevent failure.

Property owners in the vicinity of the Lake Vista Pump Station will benefit by eliminating maintenance traffic and emergency generator testing. In addition, BRWA currently practices odor control at the pump station. With construction of the new interceptor, the hazard of potential odor will be eliminated.

We are confident that BRWA will benefit from entering into a PPEA design-build agreement with the Garney and Wiley|Wilson team. Garney is one of the nation's leading pipeline contractors with extensive experience in the Bedford/Lynchburg area. BRWA knows Garney from the Smith Mountain Lake WTP Pipelines project, and BRWA staff described Garney as one of the best contractors they have ever worked with in the industry. Similarly, Wiley|Wilson has more experience than any other firm in designing wastewater interceptors in the Bedford/Lynchburg area. BRWA knows Wiley|Wilson from a long professional relationship and in their

role as design engineer of record of over 26 miles of interceptor sewers for the Lynchburg regional interceptor system (including the existing Ivy Creek interceptor). In addition, including the City of Lynchburg interceptors, Wiley|Wilson has designed over 100 miles of sewer lines in central Virginia.

PUBLIC SUPPORT OR OPPOSITION

ii. Identify any anticipated public support or opposition, as well as any anticipated government support or opposition, for the project.

BRWA has included the Ivy Creek Division 5 and 6 projects in their master planning efforts since at least 2003. Further, this project will replace a 'noticeable' utility, the Lake Vista Pump Station, with a buried interceptor. Thus, we do not anticipate public opposition. Additionally and as noted previously, decommissioning the LVPS will benefit the surrounding property owners.

BRWA's master planning efforts are also incorporated into Bedford County's master plan efforts to support residential and commercial growth in the Forest area. Thus, we anticipate Bedford County will support this project.

The Garney and Wiley|Wilson team will work closely with property owners to maintain a positive relationship throughout the project and work towards the goal of the interceptor being out of sight and out of mind.

COMMUNITY OUTREACH PLAN

iii. Explain the strategy and plans that will be carried out to involve and inform the general public, business community, and governmental agencies in areas affected by the project.

Garney and Wiley|Wilson will work with BRWA to coordinate outreach activities. This often involves neighborhood meetings to meet residents and discuss the project. It also involves being available when those residents have concerns. As a local firm, Wiley|Wilson's office is less than 10 minutes from the project site, which allows us to be very responsive to their needs.

Engagement with governmental agencies will be led by Wiley|Wilson. We have a long-standing professional relationship with agencies at all levels of government in central Virginia ranging from Bedford County to the City of Lynchburg to VDOT to the US Army Corp of Engineers. During the Ivy Creek Division 5 and 6 PER preparation effort, we engaged with several agencies including the City of Lynchburg and VDOT. Our team will proactively continue this engagement to make sure the project stays on track.

ECONOMIC CONDITION BENEFITS

iv. Describe anticipated significant benefits to community, region, or state including benefits to the economic condition of the Authority and whether the project is critical to attracting or maintaining competitive industries and businesses to the Authority or the surrounding region.

The Ivy Creek Division 5 and 6 Interceptor project will support growth in the existing and future Forest and New London service areas for the next 50+ years. The service areas currently rely on the Lake Vista Pump Station, and that asset requires continuous attention and maintenance to maintain service. [Additional information is deemed proprietary - please reference Volume 2].

COMPATIBILITY WITH LOCAL COMPREHENSIVE PLAN

v. Describe compatibility with the local comprehensive plan, local infrastructure development plans, the capital improvements budget, or other government spending plan.

The Ivy Creek Division 5 and 6 Interceptor is included in the BRWA Master Plan.

SMALL, MINORITY, AND WOMEN-OWNED BUSINESS PARTICIPATION

vi. Provide a statement setting forth participation efforts that are intended to be undertaken in connection with this project with regard to the following types of businesses: (i) minority-owned businesses, (ii) woman-owned businesses, and (iii) small businesses.

The Garney and Wiley|Wilson team is committed to engaging local businesses, and we have a proven track record of providing meaningful opportunities for MWSBEs. We encourage every practicable opportunity for Minority and Women-Owned Enterprises, Small and Disadvantaged Businesses, Socially and Economically Disadvantaged Businesses,

Emerging Small Businesses and Historically Underutilized Businesses to participate in design and construction contracts that we are awarded. We have worked on countless projects across the Mid-Atlantic with MWSBE participation goals and have consistently met or exceeded expectations. Standard steps that are taken, at a minimum, in an effort to achieve participation goals on projects that our team undertakes are outlined below:

STEPS TAKEN TO ACHIEVE MWSBE PARTICIPATION GOALS ON OUR PROJECTS

- + Engage qualified MWSBE contractors who can bring value to the project by mailing, e-mailing, and faxing an invitation to bid on this project
- + Calling local MWSBE contractors
- + Advertisements placed in newspapers and/or other publications
- + When possible, Garney will hold pre-bid meetings in which all listed firms will receive an invitation
- + Contact subcontractors interested in this project to encourage their commitment to increasing MWSBE participation on this project by recruiting and assisting MWSBEs in their subcontracts
- + Identify opportunity areas that will allow us to break down or combine elements of work into economically feasible units to facilitate local MWSBE participation.
- + Make the construction plans and specifications available for review by MWSBE firms
- + Work closely with local community and agency programs in an effort to identify additional areas in which we may improve on our community outreach

OUR TEAM WILL BE PROACTIVE IN WORKING WITH BRWA TO SET FORTH ACHIEVABLE PARTICIPATION EFFORTS TO BE UNDERTAKEN IN CONNECTION WITH THIS PROJECT.

ROUTE 460 PUMP STATION BENEFIT TO BRWA AND THE COMMUNITY

i. Identify who will benefit from the project, how they will benefit, and how the project will benefit the overall community, region, or state.

[This information is deemed proprietary--please reference Volume 2.]

PUBLIC SUPPORT OR OPPOSITION

ii. Identify any anticipated public support or opposition, as well as any anticipated government support or opposition, for the project.

[This information is deemed proprietary--please reference Volume 2.]

COMMUNITY OUTREACH PLAN

iii. Explain the strategy and plans that will be carried out to involve and inform the general public, business community, and governmental agencies in areas affected by the project.

[This information is deemed proprietary--please reference Volume 2.]

ECONOMIC CONDITION BENEFITS

iv. Describe anticipated significant benefits to community, region, or state including benefits to the economic condition of the Authority and whether the project is critical to attracting or maintaining competitive industries and businesses to the Authority or the surrounding region.

[This information is deemed proprietary--please reference Volume 2.]

COMPATIBILITY WITH LOCAL COMPREHENSIVE PLAN

v. Describe compatibility with the local comprehensive plan, local infrastructure development plans, the capital improvements budget, or other government spending plan.

[This information is deemed proprietary--please reference Volume 2.]

SMALL, MINORITY, AND WOMEN-OWNED BUSINESS PARTICIPATION

vi. Provide a statement setting forth participation efforts that are intended to be undertaken in connection with this project with regard to the following types of businesses: (i) minority-owned businesses, (ii) woman-owned businesses, and (iii) small businesses.

[Please reference the Small, Minority, and Women-Owned Business Participation Plan on Page 63].



SECTION E

APPENDIX

APPENDIX

[This information is deemed proprietary--please reference Volume 2.]



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