BEDFORD REGIONAL WATER AUTHORITY
SMITH MOUNTAIN LAKE WATER TREATMENT PLANT AND LAKES TO FOREST WATERLINE EXTENSION PROJECT
August 29, 2013

Submitted by:

Volume 1
Non-Proprietary

Anderson & Associates, Inc.
ENGLISH
Wiley Wilson
Executive Summary | 1
Design-Builder | 2
Project Team | 3
Experience | 4
Understanding and Approach | 5
Cost Factors | 6
Appendix A - Resumes | A
Appendix B - Forms for Affirmation of Compliance | B
Appendix C - Contract Form Comments | C
Who is better to rely on for your complete project solution than your neighbor, your customer, and your future beneficiary of the Smith Mountain Lake Water Treatment Plant (SMLWTP) project?

English Construction Company, Inc. of Lynchburg is proud to lead the Design-Build team comprised of Anderson & Associates of Blacksburg, Wiley|Wilson of Lynchburg, and specialized subconsultants. This team was developed over a year ago in anticipation of providing the Authority with an independent turnkey solution for their long term water needs. The combined strengths of this team represent local resources capable of fulfilling the Progressive Design-Build (PDB) needs of the recently developed Bedford Regional Water Authority (BRWA). The strengths of this team are as follows:

- Extensive water resource development design and construction experience
- Alternative project delivery experience that is unsurpassed within the industry
- Local knowledge and resources to provide long-term project support

**History of Work Performed**

English Construction has led the State of Virginia in providing alternative delivery projects and has long been an industry leader in projects that involved partnering with an Owner to develop a concept into a solution. Our commitment to this process began before legislation was developed to allow governments to utilize alternative procurement, when English was providing project construction in an open-book design-build fashion with private owners.

The Progressive Design-Build delivery is a form of alternative delivery process that English Construction has been working within for decades. The formal legislation was developed almost 20 years ago and allowed English Construction to provide the first highway project constructed under the Public Private Transportation Act (PPTA). Over 10 years ago the Public Private Education Act (PPEA) allowed English Construction to provide the first alternative delivery educational facility. In 2006, the PPEA was amended to allow infrastructure projects and again English Construction led the way providing the Bedford County Public Service Authority with the first two alternative delivery utility projects in the state.

The Progressive Design-Build delivery is a form of alternative delivery process that English Construction has been working within for decades.
Design Team
Wiley|Wilson is the premier designer of Central Virginia’s infrastructure and has provided numerous past services in the Bedford region and for the BCPSA. Their local water resource development and treatment experience is vast and compliments the other members of the team. Wiley|Wilson is a full-service multi-discipline A-E firm with a large, diverse staff that is available to work on the SMLWTP project. In addition, an industry expert, Dr. Billy Kornegay is included on the design team in anticipation of concerns associated with disinfection byproducts and for water treatment design expertise. Should it be determined that a conventional water treatment plant process would better serve the needs of the Authority, Dr. Kornegay's world-wide experience with conventional treatment will be invaluable to the Authority.

Anderson & Associates has provided services for the Bedford County Public Service Authority (BCPSA) (now BRWA) for over twenty years, most recently performing the Preliminary Engineering Report (PER) for the former BCPSA in developing the concept of this very project. There is no design firm that can claim more completed membrane water treatment plant designs in Virginia, period, which is a potential concept for providing the treatment at Smith Mountain Lake.

The local knowledge of the design team will be reflected in the value that will be brought to the project. The background knowledge of the project and the area that already exists within this team will save time and money during the execution of Phase One and Phase Two of this project.

Project Familiarity
This team has worked together on multiple past projects that demonstrate the teamwork and open-book relationship that will benefit BRWA during the course of this project. Our team understands the history of the BRWA and the steps taken along the way leading to this project. We are intimately familiar with Bedford County and the Authority. Many of our team members live in Bedford County and are Authority customers. You have seen us in the community and at your Board meetings for many years. We have heard and participated in the discussions and planning activities leading to this project. This is not just a “one-and-done” proposition for any of our team members. Our local presence should raise the bar for the level of expectation you have for the performance of our team. You will continue to see us at the lake, in the Town of Bedford, in the Forest community, and at your Board meetings after this project is completed and water is being provided from the lake to the Town of Bedford and Forest.

Our team’s understanding of the project is unparalleled as we have intimate working knowledge of the resource that is being leveraged for this project. We are well versed in dealing with the state and local regulatory agencies and can assist the Authority in the pursuit and ultimate final approval of the project. Our current relationships with the stakeholders, within local government, and communities will be critical in paving the way for this project’s success.
The work that has occurred to date with the former BCPSA in the development of the project PER has placed our team in the unique position of hitting the ground running to continue the development of the project for the BRWA. Since the project components have been prioritized, we recognize that the recommendations of the Preliminary Engineering Report (PER) may require re-evaluation. We have created a team that is capable of fully analyzing all options that are necessary to identify the best project solution. We have conceived alternatives that are different from the PER, which we believe will substantially reduce the cost of project components. This will allow additional project priorities to be constructed within the project budget.

Our team will approach this project and its priorities with an ultimate goal of delivering maximum value and benefit to the Authority while providing long-term sustainability and system solutions with the capital investment that is made. Our proven track-record ensures the Authority, we will work hard to deliver the best possible solution to fit your needs and budget.

**Client Testimonies**

“If I could choose but one construction firm to build every project we have in the future, there would only be one clear choice: English Construction. Doug Dalton and his folks are straight talking, smart, and honest as the day is long. I have been around construction firms for 40 years, and I have never found one better.”

*John E. Jackson, Jr. Lt. Gen., USAF (Ret.) President, Fork Union Military Academy (Fork Union, VA)*

“I truly believe that one of the keys to success is in the team and the people who make up the team. I commend you on the people you put together for this team. They have vision, dedication, and a commitment to quality. This team has set the standard for excellence and has moved things forward with a high degree of professionalism and expertise.”

*Cynthia L. Ward, Director, Special Operations VA Dept. of Transportation*

“I consider it a privilege to provide a superior recommendation for English Construction. The company clearly understood our budget. Their superintendent was amazing in his attention to detail. Our owner’s meetings clearly laid out any concerns, and, during the entire process, I never felt uninformed or lacking for complete information.”

*Dr. Ronald P. Sykes, Headmaster, The Covenant School (Charlottesville, VA)*

“The Moneta Resource Group (English Construction) delivered far beyond our expectations on this project; from start to finish, and even beyond the completion of the project, they have been looking out for the best interests of the PSA. Thank you for all your hard work.”

*Brian M. Key, PE, Executive Director, Bedford County Public Service Authority*
PART 2 - DESIGN-BUILDER

General Information
English Construction Company, Inc. will serve as the Design-Builder on the project and will be the Bedford Regional Water Authority's primary point of contact.

The corporate office is located in Lynchburg, VA with an equipment maintenance shop in Hurt, VA. The locations of these offices provide the unique opportunity for exceptional project construction support as each of the locations is within 50 miles of the project site.

English Construction maintains a staff of more than 600 employees forming construction and support teams that, under the leadership of 120 tenured personnel, have supported as many as 40 concurrent projects.

English Construction is a third generation family owned business that was established in 1909. English has advanced through steady growth, adding new skills, resources, and technology. As the company kept pace with changes in the construction industry, areas of expertise expanded and include such diverse areas as water and wastewater treatment facilities, bridges, power plants, public safety, correctional and courthouse facilities, factories, monumental structures, and historic renovations.

We focus on green construction technologies, renewable energy, and protecting our environment on all projects. We are proud to have six key management personnel who are Leadership in Energy and Environmental Design (LEED) Accredited Professionals who understand the impacts of construction on our waterways and the effects they have on our communities, quality of life, and future generations. English leads the way in constructing environmentally friendly projects.

Legal Structure
English is a multi-disciplined construction firm that is a Class ‘A’ heavy highway/utility Contractor and is licensed to operate in eight states in the Southeast U.S. with primary work in Virginia, North Carolina, and South Carolina.

Project Office Location
The design of the project will take place in Lynchburg and Blacksburg, VA at the corporate offices of our design subconsultants. To ensure continuity, final construction documents will be compiled into one unified set at Wiley|Wilson's office in Lynchburg. English Constructions local corporate office in Lynchburg will be our project office location during Phase One. In addition, an on-site office will be established upon the project award to provide full management, supervision, and implementation of the project during Phase Two.
PART 2 - DESIGN-BUILDER

Material Adverse Changes
There have been no material adverse changes in the financial position of English Construction.

Legal Proceedings and Judgments
Currently, there are no pending lawsuits against English Construction that could affect the financial position or ability to perform contractual commitments to the Authority.

Past Legal Proceedings and Judgments:
- English Construction filed mechanic's liens against Southlake Towne Center Partners, L.L.C. for non-payment of work performed. On August 29, 2008, English settled with the Owner and the liens were released upon payment of $89,000.00.
- In September 2008, English Construction filed suit to enforce its mechanic's lien on 48 condominium units in Franklin County. English sued the Owner for non-payment of $3.4 million due English and its subcontractors. Suit settled with payment from new Owner under foreclosure proceeding.
- On February 6, 2009, English Construction filed and received judgment in the amount of $45,000.00 against Resource Partners, L.L.C. for non-payment of work performed. English negotiated a release schedule for payment as existing lots are sold.
- On January 7, 2010, English Construction Company was cited for overweight ticket in the amount of $3,867.00. Citation was reduced to $417.00 and payment made to DMV.

If further information is needed, please contact James H. Higginbotham, II, General Counsel at 434-455-3180.

Completion of Contracts
English Construction has never failed to complete any contract nor has any contract ever been terminated due to alleged poor performance or default.

Violation of Laws
English Construction has not been convicted of any criminal conduct or been found in violation of any federal, state, or local statute, regulation or court order concerning antitrust, public contracting, employment discrimination or prevailing wages within the past 10 years.

Debarred from Bidding
English Construction has not been debarred from bidding or has not been under consideration for debarment in the past 10 years.
Design-Builder/Other Firms

Our team is composed of three primary firms that will be responsible for the design and construction of the SMLWTP project. English will serve as the Builder, provide project oversight, and will lead our team. Anderson & Associates and Wiley|Wilson will both serve as project Designers and will be subconsultants to English. English will manage the Design-Builder firms by reliance on a key point of contact within each firm who will have responsibility for the work performed by each firm. A summary of the Phase One and Two responsibilities and services provided by each firm are included below.

Phase One Services and Responsibilities

- **English – Builder:** Overall project management, execution plan, scheduling, cost estimating, and GMP negotiation.
- **Anderson & Associates – Designer:** Primary design activity lead for water treatment process, water intake, and pumping. Secondary design activity for line work. Peer review of Wiley|Wilson's primary design work.
- **Wiley|Wilson – Designer:** Primary design activity lead for line work, and water treatment plant and pump station building design (structural, architectural, MEP). Secondary design activity for water treatment process, water intake, and pumping. Peer review of Anderson & Associates’ primary design work.

Phase Two Services and Responsibilities

- **English – Builder:** Overall project management, procurement, construction, startup, testing, training, and warranty coverage.
- **Anderson & Associates – Designer:** Complete design for water treatment process, water intake, and pumping. Quality assurance reviews of Wiley|Wilson’s design work. Provide/coordinate resident project inspection. Support startup, commissioning, and testing.
- **Wiley|Wilson – Designer:** Complete design of line work, water treatment plant and pump station building design. Quality assurance reviews of Anderson & Associates’ design work. Compile and assemble final construction documents. Provide/coordinate resident project inspection. Support startup, commissioning, and testing.
In addition to the three primary team members described on the previous page, our team includes exclusive subconsultants for easement acquisition (Bob Powers, Milton & Neal Properties), community relations (David Falwell, Falwell Corporation), and process design for disinfection byproducts and conventional treatment options (Dr. Billy Kornegay, PE). Each of these subconsultants will be used as needed during Phase One and Phase Two of the project.

Our team’s strength comes from the experience and leadership of English and the design capabilities of Anderson & Associates and Wiley|Wilson. Having two Designer team members allows each to take the lead on certain aspects of the project while supporting the other design partner on additional components of the overall project design. This relationship benefits the Authority by allowing each design firm to focus on different aspects of the project design, and by providing resources within the team for value engineering, peer review, and quality control. Our team organization for both Phase One and Phase Two is summarized below.

<table>
<thead>
<tr>
<th>Team Lead</th>
<th>English Construction - Henry Myers</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTP/Intake Process Design Lead</td>
<td>Anderson &amp; Associates - Gary Crouch</td>
</tr>
<tr>
<td>WTP/Intake building/MEP Design support</td>
<td>Wiley</td>
</tr>
<tr>
<td>WTP Process Design for DBPs</td>
<td>Wiley</td>
</tr>
<tr>
<td>Waterline Design Lead</td>
<td>Wiley</td>
</tr>
<tr>
<td>Waterline Design support</td>
<td>Anderson &amp; Associates - Gary Crouch</td>
</tr>
</tbody>
</table>

**Key Personnel**

Key personnel and their project assignments are listed on the Phase One and Phase Two organization charts. Our overall project team lead is Henry Myers with English Construction. Personnel within each firm will be managed by the lead person identified for each firm. Henry will lead the English Construction personnel and manage subconsultants and subcontractors. The Anderson & Associates design team will be led by Gary Crouch and the Wiley|Wilson design team will be led by Dennis Knight. Henry, Gary, and Dennis all have significant experience with water treatment facilities and water utility infrastructure projects. In addition, they each also have recent experience with Authority projects in Bedford County.
Resumes for the key personnel listed on the organizational chart are included in Appendix A. In addition, the table below provides an estimate of the approximate time commitment for each key team member. The percent time commitments indicated in the table are approximate averages over the life of the project. Our team is dedicated to providing the required resources to perform and complete all project activities. We recognize that the work load will vary over the course of the project, and we anticipate that at times each of the personnel listed will be dedicating 100% of their time to the project.

<table>
<thead>
<tr>
<th>Name</th>
<th>Firm</th>
<th>Position</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henry Myers</td>
<td>English</td>
<td>Project Executive/Manager</td>
<td>35%</td>
<td>10%</td>
</tr>
<tr>
<td>Robert Lee</td>
<td>English</td>
<td>Pre-Construction Manager</td>
<td>75%</td>
<td>5%</td>
</tr>
<tr>
<td>Robert Halpin</td>
<td>English</td>
<td>Lead Estimator</td>
<td>100%</td>
<td>10%</td>
</tr>
<tr>
<td>Jordan Combs</td>
<td>English</td>
<td>Asst. Project Manager – Intake and WTP</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>Matt Hall</td>
<td>English</td>
<td>Asst. Project Manager – Waterlines</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>John Ellmore</td>
<td>English</td>
<td>General Superintendent</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>Ricky Tuck</td>
<td>English</td>
<td>Project Superintendent</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>Michael Scott</td>
<td>English</td>
<td>Safety Manager</td>
<td>On call</td>
<td>10%</td>
</tr>
<tr>
<td>Gary Crouch</td>
<td>A&amp;A</td>
<td>Officer-in-Charge/Project Manager</td>
<td>35%</td>
<td>10%</td>
</tr>
<tr>
<td>Matthew Gross</td>
<td>A&amp;A</td>
<td>Project Engineer – Pumping</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>Brian McNinney</td>
<td>A&amp;A</td>
<td>Project Engineer – Water Mains/Model</td>
<td>35%</td>
<td>5%</td>
</tr>
<tr>
<td>Dennis Amos</td>
<td>A&amp;A</td>
<td>Project Engineer – Water Mains</td>
<td>35%</td>
<td>5%</td>
</tr>
<tr>
<td>Adam Czesnowski</td>
<td>A&amp;A</td>
<td>Project Engineer – Site</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>Neil Martin</td>
<td>A&amp;A</td>
<td>Survey Manager</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Dennis Knight</td>
<td>W</td>
<td>W</td>
<td>Project Manager</td>
<td>35%</td>
</tr>
<tr>
<td>Billy Komegay</td>
<td>W</td>
<td>W</td>
<td>DBP Process Design</td>
<td>20%</td>
</tr>
<tr>
<td>Keith Thompson</td>
<td>W</td>
<td>W</td>
<td>Lead Civil Engineer</td>
<td>50%</td>
</tr>
<tr>
<td>Scott Francis</td>
<td>W</td>
<td>W</td>
<td>Lead Structural Engineer</td>
<td>35%</td>
</tr>
<tr>
<td>Bob Mayberry</td>
<td>W</td>
<td>W</td>
<td>Lead Architect</td>
<td>35%</td>
</tr>
<tr>
<td>Mike Gehl</td>
<td>W</td>
<td>W</td>
<td>Lead Mechanical Engineer</td>
<td>35%</td>
</tr>
<tr>
<td>Steve Bowman</td>
<td>W</td>
<td>W</td>
<td>Lead Electrical Engineer</td>
<td>35%</td>
</tr>
</tbody>
</table>
To maintain continuity throughout the project the key personnel we have assigned will not change from Phase One to Phase Two.

- During Phase One, the emphasis will be on planning and design. In this phase, our design personnel will have a larger role.
- As the project transitions from Phase One to Phase Two, the design activities will be coming to a close and the emphasis will shift to construction activities.
- During Phase Two our construction personnel will take on a larger role until the completion of the project.
**PART 4 - EXPERIENCE**

**Reference Project Summary**

The experience and past performance of our team members is demonstrated by the project write-ups provided in Section 4 of our Statement of Qualifications. Projects described reflect a sampling of our individual firm’s experiences, as well as some projects where our team members have joint experience. The following summary table lists the projects that are included in our Statement of Qualifications.

**Reference Projects Key**

<table>
<thead>
<tr>
<th>NO.</th>
<th>PROJECT TITLE</th>
<th>PROJECT OWNER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Churchville &amp; Berry Farm Filtration Plants</td>
<td>Augusta County Service Authority</td>
</tr>
<tr>
<td>2</td>
<td>Town of Bluefield Water System Improvements</td>
<td>Town of Bluefield, VA</td>
</tr>
<tr>
<td>3</td>
<td>Town of Hillsville Water Treatment Plant Improvements</td>
<td>Town of Hillsville, VA</td>
</tr>
<tr>
<td>4</td>
<td>RFAAP Potable Water Treatment Plant Replacement</td>
<td>Alliant Techsystems Radford, VA</td>
</tr>
<tr>
<td>5</td>
<td>Three Membrane Filtration Water Treatment Plants</td>
<td>Augusta County Service Authority</td>
</tr>
<tr>
<td>6</td>
<td>Town of Dayton Water Treatment Plant Improvements</td>
<td>Town of Dayton, VA</td>
</tr>
<tr>
<td>7</td>
<td>Raw Water Intake, Pump Stations, and Transmission Main</td>
<td>City of Harrisonburg, VA</td>
</tr>
<tr>
<td>8</td>
<td>New Ashcake Road Waterline</td>
<td>Hanover County, VA</td>
</tr>
<tr>
<td>9</td>
<td>City of Lynchburg Water Treatment Plants</td>
<td>Lynchburg, VA</td>
</tr>
<tr>
<td>10</td>
<td>Town of Orange Wastewater Treatment Plant</td>
<td>Town of Orange, VA</td>
</tr>
<tr>
<td>11</td>
<td>Clevengers Village Water Treatment Plant</td>
<td>Culpeper County, VA</td>
</tr>
<tr>
<td>12</td>
<td>South Church Street Water Treatment Facility</td>
<td>Smithfield, VA</td>
</tr>
<tr>
<td>13</td>
<td>Henry L Lanum, Jr. Water Filtration Plant Technology Upgrade</td>
<td>Amherst, VA</td>
</tr>
<tr>
<td>14</td>
<td>Moneta Wastewater Treatment Plant and Collection System</td>
<td>Bedford Regional Water Authority</td>
</tr>
<tr>
<td>15</td>
<td>Montvale Wastewater Treatment Plant</td>
<td>Bedford Regional Water Authority</td>
</tr>
<tr>
<td>16</td>
<td>Fredericksburg Treatment Plant Repairs and Upgrade</td>
<td>Fredericksburg, VA</td>
</tr>
</tbody>
</table>
PART 4 - EXPERIENCE

Churchville and Berry Farm Filtration Plants, Augusta County Service Authority, Augusta, VA

Owner: Augusta County Service Authority | Contact: Ken Fanfoni | Phone: 540.245.5670

Anderson & Associates provided complete engineering services which included the preparation of a PER, construction plans and contract documents, construction administration, and provision of additional engineering services such as operations and maintenance manual updates. The project included the expansion of the existing Churchville Well #3 building to add a 0.25 MGD membrane filtration system and clearwell and connection of another well for additional source capacity. The Berry Farm project involved the expansion of an existing building to add a 1.0 MGD membrane filtration system and clearwell and replace an existing ion exchange water softener, as well as development and connection of another source for increased reliability. The design allowed the flexibility to use either the Berry Farm Spring or a newly developed well source water.

The work on these projects required close coordination with the Owner/Contractor during the construction phase. Each system also required separate documentation of compliance with VDH Working Memo 880 and demonstrates experience with membrane filtration water treatment and with VDH requirements for membrane filtration.

The Authority completed much of this work by force account to reduce costs and Anderson & Associates also provided general support type services, such as performing quantity takeoffs, identifying equipment suppliers, and coordinating equipment delivery, to assist them in this effort.


Begin Date: 2007 | Completion Date: 2009

Contract Value: $2,700,000

Contract Value: $2,700,000

Key Personnel:
- Gary Crouch, PE - Project Manager
- Matthew Gross - Project Engineer
- Neil Martin - Survey

Key Personnel:
- Gary Crouch, PE - Project Manager
- Matthew Gross - Project Engineer
- Neil Martin - Survey

Key Personnel:
- Gary Crouch, PE - Project Manager
- Matthew Gross - Project Engineer
- Neil Martin - Survey
Water System Improvements, Town of Bluefield, VA

**Owner:** Town of Bluefield | **Contact:** Mike Watson | **Phone:** 276.322.4178

Anderson & Associates assisted the Town of Bluefield with major improvements to the Town’s water distribution system and aging water treatment plant. Planning, water distribution hydraulic modeling, design, construction administration, inspection, and operational assistance services were provided. Changes to the distribution system involved raising the hydraulic gradient (pressures) within the Town’s low level (main) subsystem to eliminate six booster pump stations and improve fire protection system wide. A new 1 million gallon tank was constructed and new water mains provided to improve system pressures and reliability.

The Town’s 45 year old 1.5 MGD water treatment plant was upgraded. Building improvements included door and window replacements and renovation of the plant laboratory. Work also included the upgrade of the plant’s electrical and control systems including a new service and motor controls and a SCADA system. Process improvements included rebuilding of the filter and flocculators, and the installation of new chemical feed equipment. The finished water pumps were also upgraded to provide additional head and capacity and operator control.

This project was for the upgrade of an operating facility and required coordination of the construction sequence to maintain uninterrupted water service during construction. It involved conventional water treatment and coordination similar to some alternatives to be considered.

**Begin Date:** 2002 | **Completion Date:** 2006

**Contract Value:** $2,987,400

**Role of Respondent:** Anderson & Associates - PER/Planning, Hydraulic Modeling, Design, Construction Administration, Inspection, Operational Assistance

**Key Personnel:**
- Gary Crouch, PE - Project Manager
- Matthew Gross - Project Engineer
- Neil Martin - Survey
PART 4 - EXPERIENCE

Water Treatment Improvements, Town of Hillsville, VA

**Owner:** Town of Hillsville | **Contact:** Darrick Mayes | **Phone:** 276.322.4178

The Town’s water treatment plant was in need of improvements in order to continue to provide quality drinking water to its existing and future customers. By locating funding options and as a result, SERCAP and Mount Rogers PDC provided the funding needed to complete a Preliminary Engineering Report (PER) to address needed improvements. After completion of the PER, A&A assisted the Town with a VDH Construction Funding application to help fund the improvements. Improvements included the following:

- Replacing control valves on existing filters
- Replacing filter media
- Concrete restoration on existing sedimentation basins
- Replacing roof over filter room
- Modify clear well baffle wall
- Replacing backwash holding tank

This project was for the upgrade of operation facilities and required coordination of the construction sequence to maintain uninterrupted water service during construction. It involved conventional water treatment similar to some alternatives to be considered.

**Begin Date:** 2011 | **Completion Date:** 2013

**Contract Value:** TBD

**Role of Respondent:** Anderson & Associates - Design, Bidding Assistance, and Construction Contract Administration

**Key Personnel:**
- Gary Crouch - Project Manager
- Dennis Amos - Project Engineer
- Matthew Gross - Project Engineer
- Neil Martin - Survey
Potable Water Treatment Plant Replacement, Radford Army Ammunition Plant, Radford, VA

Owner: Alliant Techsystems, Inc. | Contact: Darrick Mayes | Phone: 540.267.5780

Alliant Techsystems (ATK) operated the Radford Army Ammunition Plant (RFAAP) in Radford, Virginia, a plant that produces rocket and gun propellants and other energetic materials. Since assuming operating contractor status in 1995, ATK invested more than $50 million in the plant. The U.S. Army has also invested significantly in the plant’s modernization and consolidation.

A&A assisted ATK by providing a detailed evaluation of the existing Building 419 Potable Water Treatment Plant. The evaluation assessed the capacity, condition, risks, and costs of upgrading individual treatment and pumping units.

The overall upgrade cost was then used to perform a life cycle (capital and operating) cost comparison of upgrading versus replacement of the facilities. The preliminary report was successfully completed on a 60 day fast-track basis and was then used by ATK and the Army to set a course of action. Based on a life cycle cost analysis it was decided to replace two ageing water treatment plans with a new state of the art water treatment plant that would greatly reduce operating costs. A&A developed a fast-track schedule for design, reviews, permitting, construction, and operator training for a new potable water treatment plant. Working closely with ATK, a new potable water treatment plant was placed in service approximately eleven months from the decision to proceed with design. The completed project was a major step toward modernization of the RFAAP’s plant infrastructure.

Begin Date: 2009 | Completion Date: 2010

Contract Value: Confidential at client’s request

Role of Respondent: Anderson & Associates
- PER, Design, Construction Administration, Surveying

Key Personnel:
- Gary Crouch - Project Manager
- Adam Czesnowski - Site Engineer
- Matthew Gross - Project Engineer
- Brian McNinney - Project Engineer
- Neil Martin - Survey
Membrane Filtration Water Treatment, Augusta County Service Authority, Augusta, VA

**Owner:** Augusta County Service Authority | **Contact:** Ken Fanfoni | **Phone:** 540.245.5670

Anderson & Associates evaluated treatment alternatives and prepared individual PER's for three water systems to meet new VDH standards for filtration. Design, procurement, and construction administration assistance was then provided for three membrane filtration water treatment systems installed by the Authority. Funding assistance was provided by the Virginia Drinking Water Revolving Fund.

- **Augusta Springs Water Treatment** — Planning and design of a 250,000 GDP membrane filtration system to replace a non-performing cartridge filter system. The system treats water from either a spring or well source at the site to provide compliance with new VDH and U.S. EPA filtration requirements.

- **Middlebrook Water Treatment** — Planning and design of a 30,000 gallons per day membrane filtration system to treat water from a well that was determined to be surface water influenced. Work consisted of separate plans and specifications for procurement of filtration equipment, building construction, and installation of equipment by the Augusta County Service Authority by force account.

- **Deerfield Water Treatment** — Planning and design of a 30,000 GPD membrane filtration system to replace a non-performing cartridge filter system. The system treats water from either a spring or well source at the site to provide compliance with new VDH and U.S. EPA filtration requirements.

Each system required compliance and documentation of compliance with VDH Working Memo 880. Although these are smaller systems the requirements remain the same regardless of size.

**Begin Date:** 2004/2005 | **Completion Date:** 2010

**Contract Value:** Confidential at client’s request

**Role of Respondent:** Anderson & Associates - Planning, Design, Construction Administration

**Key Personnel:**
- Gary Crouch - Project Manager
- Neil Martin - Survey
Water Treatment Plant Improvements, Town of Dayton, VA

**Owner:** Town of Dayton  |  **Contact:** Lelan Siler  |  **Phone:** 540.879.2241

The Town of Dayton received new more stringent discharge requirements for the backwash water leaving their 3 MGD membrane filtration water treatment plant. A&A worked with the Town to evaluate their existing backwash treatment and residuals management systems and recommended a means to improve the efficiency of the existing systems.

A&A then assisted the Town of Dayton with the design of backwash solids dewatering equipment and improvements to the existing backwash settling tank at the Town’s water treatment plant. The work also included a rate of flow control valves to limit the flow rate to the backwash settling tank. These updates meet the new discharge limits required by the Department of Environmental Quality (DEQ), and provided the Town with an easier means for handling their water treatment plant residuals.

This project required modification of a similar size membrane filtration water treatment plant and involved an element common to any type of water treatment facility: residuals management. The Owner, similar to the Authority’s, also desired a cost effective easy to operate system.

**Begin Date:** 2007  |  **Completion Date:** 2008

**Contract Value:** $255,000

**Role of Respondent:** Anderson & Associates - Planning, Design, Construction Administration
Raw Water Intake, Pump Stations, and Transmission Main, Harrisonburg, VA

**Owner:** City of Harrisonburg | **Contact:** Mike Collins | **Phone:** 540.434.9959 x107

**Begin Date:** 2009 | **Completion Date:** On-going

**Contract Value:** $24,000,000 estimated, phased construction on-going

**Role of Respondent:** Wiley|Wilson - Designer

Wiley|Wilson has worked with the City to develop a new 8 MGD raw water source on the South Fork of the Shenandoah River, including design of new intake structure, intake pump station, 11 miles of 24-inch raw water main, including an intermediate booster pump station. Work included new source permitting, routing and alignment alternatives analysis, easement preparation, hydraulic modeling, and final detailed design.

The Project included the following:

**Preliminary Engineering Report:**
- Source water alternatives analysis
- Routing alternatives analysis and hydraulic modeling
- Project scoping and phase development
- Preliminary cost estimates
- Design recommendations

**Design:**
- Design of intake structure and “wet” construction permitting
- Preparation of easement plats and descriptions.
- Coordination with VDOT for work along roadways
- Design of two 8-mgd pump stations
- Plan and profile drawings for 11 miles of 24-inch main

**Key Personnel:**
- Dennis Knight - Civil Engineer
- Keith Thompson - Civil Engineer
- Mike Gehl - Mechanical Engineer
- Steve Bowman - Electrical Engineer

**Raw Water Intake, Pump Stations, and Transmission Main, Harrisonburg, VA**

**Begin Date:** 2009 | **Completion Date:** On-going

**Contract Value:** $24,000,000 estimated, phased construction on-going

**Role of Respondent:** Wiley|Wilson - Designer

Wiley|Wilson has worked with the City to develop a new 8 MGD raw water source on the South Fork of the Shenandoah River, including design of new intake structure, intake pump station, 11 miles of 24-inch raw water main, including an intermediate booster pump station. Work included new source permitting, routing and alignment alternatives analysis, easement preparation, hydraulic modeling, and final detailed design.

The Project included the following:

**Preliminary Engineering Report:**
- Source water alternatives analysis
- Routing alternatives analysis and hydraulic modeling
- Project scoping and phase development
- Preliminary cost estimates
- Design recommendations

**Design:**
- Design of intake structure and “wet” construction permitting
- Preparation of easement plats and descriptions.
- Coordination with VDOT for work along roadways
- Design of two 8-mgd pump stations
- Plan and profile drawings for 11 miles of 24-inch main

**Key Personnel:**
- Dennis Knight - Civil Engineer
- Keith Thompson - Civil Engineer
- Mike Gehl - Mechanical Engineer
- Steve Bowman - Electrical Engineer
New Ashcake Road Waterline, Hanover County, VA

Owner: Hanover County | Contact: Gary Craft | Phone: 804.365.6019

This Project included the design of 13,300 feet of 24-inch waterline along Route 643 (New Ashcake Road) to provide domestic water and fire protection for growth in the Mechanicsville and Ashland areas of the County. The new waterline was sized for future growth and extension to the western end of the service area.

The design included provisions or considerations for the following:

- Connections to the existing waterlines
- Coordination with VDOT regarding roadway crossings, bores, and traffic control
- Permitting for CSX railroad bored crossing
- VMRC permitting for wetland impact
- Utility conflicts
- Easement plat preparation
- Future extension of the waterline
- Stub-outs for future connections
- Investigation of cleaning options, including uni-directional flushing, chemical cleaning, balling, jetting, and swabbing

Begin Date: 2005 | Completion Date: 2006

Contract Value: $2,100,000

Role of Respondent: Wiley|Wilson - Designer

Key Personnel:
- Dennis Knight - Civil Engineer
- Keith Thompson - Civil Engineer
- Bob Mayberry - Architect
**PART 4 - EXPERIENCE**

**Design**

**Lynchburg Water Treatment Plants, City of Lynchburg, VA**

**Owner:** City of Lynchburg | **Contact:** Greg Poff | **Phone:** 434.455.4249

Wiley|Wilson has provided comprehensive professional services to the City of Lynchburg relating to planning, design, and construction for their water utilities for over 75 years. This includes development of two independent sources of supply, a mountain reservoir and a secondary river intake; development of two water filter plants (12 and 14 MGD capacity) and a regional distribution system that serves over 120,000 customers in three counties around the city.

The Wiley|Wilson Team has partnered with the City to plan and implement annual CIP Improvements recommended in the Master Plan Studies. These studies included financial planning, rate setting, and jurisdictional agreements for providing water and sewer service to the three surrounding counties. The Key elements of the master plans, studies, and designs are as follows:

- Development of the 125-acre Pedlar Reservoir and incrementally raising the dam to obtain more storage (twice)
- Development of 7 MGD College Hill Filter Plant (river source); subsequent expansion to 14 MGD
- Development of 12 MGD Abert Water Filter Plant (first high-rate river source filtration plant approved by the State)
- Development of 21 MGD river intake and pumping station (expandable to 48 MGD)
- Development of 9 MGD river intake and pumping station (expandable to 14 MGD)
- Design of innovative 36-inch intake line with passive screens that include air and water backwash systems
- Development of over 150 miles of major water transmission and distribution lines ranging from 36-inch to 12-inch.
- Planning and design of twelve water storage tanks with a combined storage capacity of 31 million gallons.
- Permit negotiations and compliance assistance for water improvements
- Extensive community engagement and stakeholder partnering

**Key Personnel:**
- Dennis Knight - Civil Engineer
- Keith Thompson - Civil Engineer
- Mike Gehl - Mechanical Engineer
- Steve Bowman - Electrical Engineer

**Completion Date:** On-going

**Contract Value:** On-going

**Role of Respondent:** Wiley|Wilson - Designer

**BRWA - Smith Mountain Lake Water Treatment Plant**
Wastewater Treatment Plant, Town of Orange, VA

**Owner:** Town of Orange  |  **Contact:** Greg Woods  |  **Phone:** 540.672.5005

English Construction and Wiley|Wilson completed an upgrade from 1.5 MGD to 3 MGD which provided a completely new liquid stream treatment process that included a 4-stage Bardenpho style activated sludge treatment system.

The unit processes designed and constructed as part of this project included influent screening; influent pump station; grit removal; enhanced nutrient removal activated sludge treatment system (4 Stage Bardenpho); secondary clarification; tertiary filtration (cloth media); UV disinfection; aerobic digestion; mechanical sludge dewatering (belt filter press); supplemental carbon storage and feed systems; aluminum salt storage and feed systems; supplemental alkalinity storage and feed systems; operations and control building expansion; back-up emergency power; and complete SCADA system.

**Design Begin Date:** 2006  
**Construction Completion Date:** 2011  
**Contract Value:** $23,133,000

**Role of Respondents:**
- English - General Contractor
- Wiley|Wilson - Designer

**Key Personnel:**
- Henry Myers - Project Executive
- Robert Halpin - Lead Estimator
- Mike Scott - Safety Manager
- Dennis Knight - Project Manager
- Bob Mayberry - Architect
- Steve Bowman - Electrical Engineer
Clevengers Village Water Treatment Plant, Culpeper County, VA

Owner: Culpeper County  |  Contact: Chris Hively  |  Phone: 540.829.8280

English Construction and Wiley|Wilson performed services for Culpeper County that included planning and design of a new 600 GPM water treatment plant to treat well water. The plant was designed to remove iron, manganese, radon, and arsenic to meet drinking water standards.

Construction administration included submittal reviews, site visits, progress meetings, answering contractor requests for information, reviewing contractor’s requests for payment, final completion, and record drawings.

Project highlights:
- Source water studies
- Preliminary design
- Fast-track specs
- Chemical feed design
- Hypochlorite disinfection
- Building design
- Site planning and design
- Design-build coordination
- Cost estimating
- County liaison

Begin Date: 2005  |  Completion Date: 2010

Contract Value: $6,597,000

Role of Respondents:
- English - General Contractor
- Wiley|Wilson - Designer

Key Personnel:
- Henry Myers - Project Executive
- Robert Lee - Preconstruction Manger
- Robert Halpin - Lead Estimator
- Dennis Knight - Process Design
- Keith Thompson - Civil Engineer
- Bob Mayberry - Architect
- Mike Gehl - Mechanical Engineer
- Dr. Bill Kornegay - Process Consultant
South Church Street Water Treatment Facility, Smithfield, VA

Owner: Town of Smithfield | Contact: Peter Stephenson | Phone: 757.365.4200

English Construction Co., Inc. was the General Contractor for the new reverse osmosis (RO) treatment facility that was designed to remove fluoride (and TDS) from the water at an initial capacity 2.1 MGD, with the ability to double the capacity accommodated in the design. Approximately 30% of the raw water will be bypassed around the RO system and blended with the treated water to produce a stable finished water with approximately 1.0 mg/l of fluoride. Because the distribution system was not designed to be supplied from a single point, but from several smaller supply wells, the Town lacked a backbone of larger water mains. A new elevated water storage tank was designed by Buchart Horn, Inc. and constructed and a new 12 inch water main proposed by the Town previously to serve the western part of the Town was also constructed. The treatment facility was also provided with a booster pump system that will boost the system pressure during periods of high demand that may occur when the treatment facility is not operating.

The treatment facility includes two 2,000 GPM water supply wells (one stand-by), scale inhibitor feed, cartridge filters, one reverse osmosis skid and feed pump, lime feed, sodium hypochlorite feed, a clearwell, high service pumps, and the distribution system booster pumps. All of this equipment is housed in a single 4,500 square foot treatment building. A separate 400 square foot concentrate pump station is also provided to pump the concentrate to the sanitary sewer.

Begin Date: 2010 | Completion Date: 2011
Contract Value: $2,787,552
Role of Respondent: English - General Contractor

Key Personnel:
- Henry Myers - Project Executive
- Robert Lee - Preconstruction Manager
Henry L. Lanum, Jr. Water Filtration Plant Technology Upgrade, Amherst, VA

**Owner:** Amherst County Service Authority | **Contact:** Dan French | **Phone:** 434.845.1606

English completed upgrades to a water filtration plant including new cast-in-place reinforced concrete clearwell, building expansion and furnishings, electrical service upgrades, vertical turbine pumps, top entry mixers, suction manifold type sludge collection equipment, tube settlers, filter bottoms and filter air scour equipment, dry chemical feed equipment, instrumentation and controls.

**Begin Date:** 2010 | **Completion Date:** 2011

**Contract Value:** $6,550,651

**Role of Respondent:** English - General Contractor

**Key Personnel:**
- Henry Myers - Project Executive
- Robert Halpin - Lead Estimator
- Matt Hall - Field Engineer
The Moneta Regional Sewer System in Bedford County, Virginia was a landmark project for the State of Virginia in that it was the first PPEA project in the Commonwealth whereby private financing was combined with public funding to construct a new regional sewer system.

The PPEA process took a 48-month (conventional) project and reduced it to a time-frame of 24 months from concept through completion. The project, a backbone of the area’s sanitary sewer infrastructure, includes over 6 miles of sanitary sewer lines, four major sewage pump stations, and a 500,000 GPD wastewater treatment plant. With approximately 60,000 linear feet of horizontal alignment, this project necessitated procurement of extensive easements and rights-of-way. The $10,250,000 plant is in operation and owned and maintained by the Bedford County Public Service Authority.

Begin Date: 2005 | Completion Date: 2006

Contract Value: $9,312,655

Role of Respondents:
- English - General Contractor
- Anderson & Associates - Owner’s Technical and Cost Review

Key Personnel:
- Henry Myers - Project Executive
- Robert Halpin - Lead Estimator
- John Ellmore, Sr. - Superintendent
- Ricky Tuck - Superintendent
- Matt Hall - Field Engineer
- Gary Crouch - Technical Reviewer
- David Falwell - Construction Mgr.
- Bob Powers - Easement Consultant
Montvale Wastewater Treatment Plant, Montvale, VA

**Owner:** BCPSA | **Contact:** Brian Key | **Phone:** 540.586.7679

The Montvale Wastewater Treatment Plant project was an upgrade to the Montvale Wastewater Treatment Plant to 50,000 gallon per day capacity with laboratory building modifications and site improvements.

**Begin Date:** 2005 | **Completion Date:** 2006

**Contract Value:** $745,315

**Role of Respondents:**
- English - General Contractor
- Anderson & Associates - Owner’s Technical and Cost Review

**Key Personnel:**
- Henry Myers - Project Exec./Manager
- Robert Halpin - Lead Estimator
- John Ellmore - Superintendent
- Ricky Tuck - Superintendent
- Mat Hall - Field Engineer
- David Falwell - Construction Mgr.
- Gary Crouch - Technical Reviewer

Fredericksburg Treatment Plant Repairs and Upgrade, Fredericksburg, VA

**Owner:** City of Fredericksburg | **Contact:** Doug Fawcett | **Phone:** 540.372.1182

The Fredericksburg Wastewater Treatment Plant Expansion and Upgrade project was the City of Fredericksburg’s first Utility PPEA Design-Build project.

This project included upgrades to the existing plant to meet Consent Order parameters, including replacing one existing mechanical bar screen with a new mechanical fine screen; replacing alum feed pumps and caustic feed pumps and repairing chemical storage tanks; adding an Ultraviolet Disinfection system into an existing chlorine contact tank; replacing valves on the RAS and WAS piping into the Oxidation Ditch; adding a new SCADA system along with field instruments for monitoring the operation of the plant; and upgrading the electrical system that included cleaning and testing all major electric equipment.

**Begin Date:** 2009 | **Completion Date:** 2009

**Contract Value:** $3,782,850

**Role of Respondent:** English - General Contractor

**Key Personnel:**
- Henry Myers - Project Executive
- Robert Halpin - Lead Estimator
**Key Personnel and Projects Cross-Reference**

The key personnel assigned to the SMLWTP project are included on our team organization chart in Section 3. Many of the key personnel included have experience on the projects included in Section 4. The summary table below provides a cross-reference of our key personnel and our reference projects.

<table>
<thead>
<tr>
<th>FIRM</th>
<th>NAMES OF KEY PERSONNEL</th>
<th>REFERENCE PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Anderson &amp; Assoc.</td>
<td>Gary Crouch, PE</td>
<td>X</td>
</tr>
<tr>
<td>Anderson &amp; Assoc.</td>
<td>Dennis Amos, PE</td>
<td></td>
</tr>
<tr>
<td>Anderson &amp; Assoc.</td>
<td>Adam Czesnowski, PE, LEED AP</td>
<td></td>
</tr>
<tr>
<td>Anderson &amp; Assoc.</td>
<td>Matthew Gross, PE</td>
<td>X</td>
</tr>
<tr>
<td>Anderson &amp; Assoc.</td>
<td>Neil Martin, LS</td>
<td>X</td>
</tr>
<tr>
<td>Anderson &amp; Assoc.</td>
<td>Brian McNinney, PE</td>
<td></td>
</tr>
<tr>
<td>Wiley</td>
<td>Wilson</td>
<td>Dennis Knight, PE</td>
</tr>
<tr>
<td>Wiley</td>
<td>Wilson</td>
<td>Keith Thompson, PE, LEED AP BD+C</td>
</tr>
<tr>
<td>Wiley</td>
<td>Wilson</td>
<td>Bob Mayberry, AIA</td>
</tr>
<tr>
<td>Wiley</td>
<td>Wilson</td>
<td>Mike Gehl, PE</td>
</tr>
<tr>
<td>Wiley</td>
<td>Wilson</td>
<td>Steve Bowman, PE</td>
</tr>
<tr>
<td>English Construction</td>
<td>Henry Myers</td>
<td></td>
</tr>
<tr>
<td>English Construction</td>
<td>Robert Halpin</td>
<td></td>
</tr>
<tr>
<td>English Construction</td>
<td>Robert Lee, LEED AP</td>
<td></td>
</tr>
<tr>
<td>English Construction</td>
<td>John Ellmore</td>
<td></td>
</tr>
<tr>
<td>English Construction</td>
<td>Ricky Tuck</td>
<td></td>
</tr>
<tr>
<td>English Construction</td>
<td>Mike Scott</td>
<td></td>
</tr>
</tbody>
</table>

**REFERENCE PROJECTS KEY**

<table>
<thead>
<tr>
<th>NO.</th>
<th>TITLE OF PROJECT</th>
<th>NO.</th>
<th>TITLE OF PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACSA Churchville &amp; Berry Farm Filtration Plants</td>
<td>9</td>
<td>City of Lynchburg Water Treatment Plants</td>
</tr>
<tr>
<td>2</td>
<td>Bluefield Water System Improvements</td>
<td>10</td>
<td>Town of Orange Wastewater Treatment Plant</td>
</tr>
<tr>
<td>3</td>
<td>Hillsville Water Treatment Plant Improvements</td>
<td>11</td>
<td>Culpeper Co. Cleavers Village Water Treatment Plant</td>
</tr>
<tr>
<td>4</td>
<td>RFAAP Water Treatment Plant Replacement</td>
<td>12</td>
<td>South Church Street Water Treatment Facility</td>
</tr>
<tr>
<td>5</td>
<td>ACSA - Three Membrane Filtration Facilities</td>
<td>13</td>
<td>Henry L. Lanum, Jr. Water Filtration Plant Upgrade</td>
</tr>
<tr>
<td>6</td>
<td>Dayton Water Treatment Plant Improvements</td>
<td>14</td>
<td>Moneta Wastewater Treatment Plant &amp; Collection System</td>
</tr>
<tr>
<td>7</td>
<td>Harrisonburg Raw Water Improvements</td>
<td>15</td>
<td>Montvale Wastewater Treatment Plant</td>
</tr>
<tr>
<td>8</td>
<td>Hanover County - New Ashcake Road Waterline</td>
<td>16</td>
<td>Fredericksburg Treatment Plant Repairs and Upgrade</td>
</tr>
</tbody>
</table>

**BRWA - Smith Mountain Lake Water Treatment Plant**
Cumulative Experience

English Construction, Anderson & Associates, and Wiley|Wilson all have recent, relevant project experience with the Authority. Each of our team members has a close working relationship with the Authority staff, completing many design projects under an Annual Services Agreements, as well as recent construction projects. Highlights of the projects that demonstrate our cumulative experience for the SMLWTP project include the following:

English Construction has extensive experience throughout the construction industry utilizing alternative project delivery in the construction of numerous utility, roadway and building projects for clients throughout Virginia and the southeast. We completed the first alternative project delivery (PPEA) utility project in Virginia for the Authority, the Moneta WWTP. English also led the team for the construction of the Montvale WWTP PPEA project which was completed in conjunction with the Moneta project. The management and supervisory personnel being proposed by English are the same team that built previous projects for the Authority. In addition, we have included on our current team David Falwell of Falwell Corporation as a community relations consultant and Bob Powers with Milton-Neal Properties as an easement acquisition consultant. Each of these team members worked tirelessly on the original Moneta and Montvale projects and they were instrumental in the overall success. Our team sees value added to this project in the utilization of the same personnel that are familiar with the local atmosphere associated with the project.

Anderson & Associates has completed more membrane treatment plants in Virginia than any other firm. They worked closely with the VDH to gain approvals of each of these facilities. Their experience includes the original High Point WTP and Smith Mountain Lake intake for the Authority. They also worked with the Authority to prepare the current Smith Mountain Lake WTP PER. In addition, Anderson & Associates has completed many waterline projects for the Authority.

Wiley|Wilson has completed a number of waterline projects for the Authority over the past 8 years under annual services contracts with the Authority. They have also designed miles of water transmission mains and many WTP projects for municipal and authority jurisdictions across Virginia during the same time period. Wiley|Wilson has also included a DBP and conventional treatment expert on our team, Dr. Billy Kornegay. Over the last 10 years, Wiley|Wilson and Dr. Kornegay have worked together on multiple treatment projects, with Dr. Kornegay applying his world-wide process consulting expertise to a variety of different treatment scenarios.

In addition to the individual experiences that our three team member firms have had in the past with the Authority, we also have joint experiences between our firms of teaming and working together on past projects throughout the region. The level of trust and institutional knowledge we have as individual firms has developed over many years of working with the Authority staff on many types of projects. Each of our team member firms will bring their knowledge and past experiences to the table for the SMLWTP project. **Our combined level of institutional knowledge and understanding of the Authority is second to none.**
Safety

English Construction’s Safety Plan encompasses worker safety training programs, job site programs, accident prevention programs, written safety and health plans, including incident investigation and reporting procedures.

English established its Safety and Health Policy as a demonstration of our commitment to the safety and health of our employees. It is our intention to comply with all relevant safety and health laws, regulations, and requirements. The elimination of accidents is one of our greatest responsibilities, and should be treated in the same manner as our business model.

It is the policy of English that all employees are responsible for safety at all times. It is the responsibility of all supervisory personnel to conduct our operations in a safe manner, and to ensure that health and safety rules are followed. It is also the responsibility of each employee to carry out their duties in a safe manner.

Employee training sessions are carried out weekly covering a wide array of construction topics. Many of these topics are suggested by our employees. Project safety coordinators conduct weekly job site inspections that are recorded. We also have annual regional meetings in which safety training is utilized. Safety awards are given out annually recognizing individuals and job sites.

Experience Modification Rating

2012 – 0.85 (current)
2011 – 0.93
2010 – 0.95
2009 – 1.02*
2008 – 0.94

Days Away From Work Incidence Rate

2012 - 0.92 (current)
2011 – 0.42
2010 – 3.21
2009 – 3.27
2008 – 2.96

*English Construction Company, Inc. EMR rate uncharacteristically spiked for 2009. Experience modification rates calculate (3) years of losses (2005, 2006, 2007) not including the current year nor the prior year. During the year 2005, Fairfield-Echols, LLC, a totally owned subsidiary of English, had (2) accidents with extended lost time from work which directly affected our EMR rate in 2009.
PART 5a - UNDERSTANDING

See Volume 2 Section 5a Understanding.
PART 5b - APPROACH

See Volume 2 Section 5b Approach.
PART 6 - COST FACTORS

See Volume 2 Section 6 Cost Factors.
In his position as Vice President of Environmental and Chief Engineer at Anderson & Associates, Mr. Crouch serves as both a project manager and an advisor to other project managers on a variety of civil and environmental engineering projects. His work has included the planning, design, permitting, and construction administration of both conventional and innovative wastewater treatment facilities, water distribution systems, water treatment and storage facilities, environmental reports and permitting, commercial development, landfills, and mined land reclamation. He also coordinates environmental permitting and reports and has experience with mitigation projects at various locations. His experience is highlighted below:

**Job Specific Experience:**

**Potable Water Treatment Plant Replacement**, Radford Army Ammunition Plant (RFAAP), Radford, VA. A&A assisted ATK by providing a detailed evaluation of the existing Building 419 Potable Water Treatment Plant. The evaluation assessed the capacity, condition, risks, and costs of upgrading individual treatment and pumping units. The overall upgrade cost was then used to perform a life cycle (capital and operating) cost comparison of upgrading versus replacement of the facilities. A new membrane filtration water treatment plant was then designed and constructed on a fast track schedule to replace two ageing treatment plants. Work also included construction phase services, startup assistance, and training of the operations staff. The completed project is a major step toward modernization of the RFAAP’s plant infrastructure. Officer-in-Charge.

**Berry Farm Spring Treatment Improvements**, Augusta County Service Authority, Augusta County, VA. Evaluated alternatives for replacement of ageing water softening equipment, and for the connection of a new well to the treatment system. The sources were anticipated to ultimately be deemed surface water influenced. A new 1.0 MGD membrane filtration system coupled with a new water softening system was designed and constructed which would allow treatment of water from either source. Work also included documentation of all aspects of compliance with VDH Working Memorandum 880 for membrane filtration. Officer-in-Charge.

**Membrane Filtration Additions**, Augusta County Service Authority, Augusta County, VA. Anderson & Associates, Inc. evaluated options and prepared preliminary engineering reports for upgrading rural water systems in western Augusta County to comply with new EPA and VDH filtration regulations. Design of separate membrane filtration systems for the Churchville, Augusta Springs, Deerfield, and Middlebrook water systems, all determined to be surface water influenced. A&A provided administrative assistance to help meet Virginia Drinking Water Revolving Fund requirements for force account construction of all facilities. Officer-in-Charge.

**Well II Water Treatment Facilities**, Town of Saltville, VA. Anderson & Associates, Inc. evaluated options for use of a 0.5 MGD well determined to be surface water influenced. Design and preparation of plans and specifications for a membrane water filtration system to treat the water to new VDH and EPA standards. Officer-in-Charge.
Mr. Amos began his career with the West Virginia Department of Transportation, prior to moving to private sector engineering. His experience includes water and sewer systems, transportation systems, and hydraulic analysis. He brings extensive knowledge of funding requirements and regulations. His experience is highlighted below:

**Job Specific Experience:**

**Water Treatment Plant Evaluation and Improvements Design & Survey**, Town of Hillsville, VA. The Town’s water treatment plant and Howlett Street water tank were in need of improvements in order to continue to provide quality drinking water to its existing and future customers. Our assistance began by locating funding options and as a result, SERCAP and Mount Rogers PDC provided the funding needed for this study. As a next step, we worked closely with the Town to prepare a Preliminary Engineering Report (PER) to address needed improvements. After completion of the PER, we assisted the Town with a VDH Construction Funding application to help fund the improvements. Project Manager.

**Fairview Water Rate Study**, Grayson County, VA. A&A performed a rate analysis for Grayson County that compared the revenues and expenses of the Fairview water system. The project began with collection of historical revenue, expense and water usage /meter data for the existing Fairview water system covering the last 12 months of operation. The rate evaluation considered these water system revenues and expenses in order to compile a final report determining the potential rate structures. Project Manager.

**Glendale Road Waterline Project**, City of Galax, VA. A&A designed approximately 1,600 feet of waterline per the recommendations in the PER which was also developed by A&A.

**Water & Wastewater System Improvements**, Town of Pearisburg, VA. This project began with the development of Preliminary Engineering Reports as part on an on-going effort to continue improving the Town’s water and wastewater system infrastructure and operation. Following these studies, A&A assisted the Town with a Rural Development funding application and funding was received to move forward with design of the recommended improvements. Design included the replacement and extension of portions of the existing water distribution and wastewater collection systems. Approximately 18,000 feet of 10, 8, 6, 4 and 2-inch water mains and 1,800 feet of 8-inch sewer mains were replaced. The water system was connected to the existing Riverbend Tank with a master meter which will allowed the Town to abandon the aging Virginia Heights hydrotank. Project Manager.

**Waterline Design & Reservoir Removal**, City of Galax, VA. Provided funding assistance for needed water improvements in the City of Galax. Funding was successfully provided by Mount Rogers Planning District Commission (MRPDC) for the design portion of this work. Our services included surveying and the preparation of design plans, technical specifications, and contract documents for two projects. The Fries Road waterline improvements project consisted of approximately 3,350 feet of
Mr. Czesnowski joined Anderson & Associates, Inc. as an intern while attending Virginia Tech and became a project engineer on the environmental team upon graduation. He later transferred to A&A’s land development group in order to change his career focus. Mr. Czesnowski has experience with site development and grading, hydrology and hydraulics, erosion and sediment control design, on-site wastewater disposal design, landfill closure and gas management plans, environmental site assessments, and site inspection. His recent experience is highlighted below:

**Job Specific Experience:**

**Site Development**, Franklin County Department of Parks & Recreation, Smith Mountain Lake, VA. Developing preliminary design and construction budget estimate for development of a Franklin County Park at Smith Mountain Lake. Unlike a typical County park with softball fields and bike trails, this park will take advantage of the unique site available to the County on Smith Mountain Lake. Situated on a 40-acre peninsula at the lake, this park will feature a beach area with a "sprayground" and bath house, picnic areas, a comfort station, and a walking trail with access to several fishing spots. In addition, the Virginia Department of Game and Inland Fisheries will have an area designated for development of a boat landing and associated parking. An office and maintenance building for the Department of Parks and Recreation will also be situated inconspicuously on the site. Engineering design includes widening of the causeway for an access road, design of an entrance road with gatehouse and parking areas, on-site wastewater treatment (pump station and drainfields) to serve the bath house and comfort station, development of the beach/sprayground area, and bank stabilization for areas with heavy erosion near the main channel of the lake. Project Engineer.

**Agricola El Rosal (Red Sun Farms) Greenhouse Project**, Dublin, VA, Anderson & Associates, Inc. provided the civil/site design including site layout, grading, drainage, erosion & sediment control, stormwater management, water and sewer, and permitting for construction of a new, high tech, commercial greenhouse located in the New River Valley Commerce Park. When all phases are completed, there will be approximately 50 acres enclosed in two glass greenhouse structures. The project also included a rainwater harvesting pond designed by A&A to recycle rainwater for greenhouse irrigation. Professional survey services by A&A included the topographic survey and staking of soil boring locations related to site design. Professional assistance with obtaining bids from contractors and evaluating pricing was also provided by A&A. Project Engineer.

**Site Development**, Midway Warehouse, Montgomery County, VA. Designed site improvements and prepared preliminary construction drawings for a warehouse/office facility. Design includes building pad location, office parking lot, VDOT entrances, truck loading dock access road, site grading, and erosion and sediment control. Project Engineer.
Mr. Gross has a wide range of experience in environmental, water, and wastewater systems. He has both designed and managed water and wastewater projects on numerous municipal systems. He has worked extensively on treatment and pump station designs for Anderson & Associates. This work has included the evaluation, design, equipment selection, preparation of construction documents, construction management, start-up, and operational assistance. As part of this water and wastewater experience, he has developed specific expertise with pumps and pumping systems. His experience is highlighted below:

**Job Specific Experience:**

**Potable Water Treatment Plant Evaluation,** Radford Army Ammunition Plant (RFAAP), Radford, VA. A&A assisted ATK by providing a detailed evaluation of the existing Building 419 Potable Water Treatment Plant. The evaluation assessed the capacity, condition, risks, and costs of upgrading individual treatment and pumping units. The overall upgrade cost was then used to perform a life cycle (capital and operating) cost comparison of upgrading versus replacement of the facilities. The preliminary report was successfully completed on a 60 day fast-track basis. The PER was followed by a more detailed preliminary engineering, process evaluation, and total project scheduling. The design was then completed on a fast track schedule, with construction recently completed. The completed project was a major step toward modernization of the RFAAP’s plant infrastructure. Project Engineer.

**Pump Station Upgrades,** Town of Vinton, VA. Upgrade of two sewage pumping stations, Niagara Road Pump Station and Third Street Pump Station. The upgrades brought both stations up to current codes and standards with building and Department of Environmental Quality requirements. The Third Street station was expanded to the extent of the agreement with the Western Virginia Water Authority. Project Manager.

**Water System Extension,** Alleghany County, VA. Design and construction administration of approximately 7,250 linear feet of 10” waterline from the Alleghany County Commerce Center to the Valley Ridge water system. Design also included placement of master meter on existing 6” line following connection of 10” line and design of flow control valve and vault. Project Manager.

**Callaghan Water Project,** Alleghany County, VA. Extension of water service from the existing Rosedale/Westwood system to the Callaghan area in Alleghany County. Included installation of approximately 48,000 lf of water line with 12 stream crossings, a pump station, and a 120,000-gallon storage tank. Services included planning, design, bidding, and construction administration. Funded by CDBG and RD. Project Engineer.

**Raphine/Fairfield Sewage Collection and Conveyance System,** Rockbridge County PSA, VA. This project included the upgrade and replacement of approximately 4.7 miles of an existing sewer trunk line, the installation of 3 pump stations and 3 force mains, with an approximate total length of 6 miles and new sewage collection lines with an approximate length of 9.2 miles. Additionally, this project included approximately 1.5 miles for a new water transmission main to provide more reliable service to the North Lexington Water System. Project Engineer.
Mr. Martin has been with Anderson & Associates since 1988. In that time, his primary focus has been location, boundary, topographic, and transportation surveys, as well as inspection and photo control. His experience is highlighted below:

**Job Specific Experience:**

**Potable Water Treatment Plant Evaluation & Design**, Radford Army Ammunition Plant (RFAAP), Radford, VA. A&A assisted ATK by providing a detailed evaluation of the existing Building 419 Potable Water Treatment Plant. The evaluation assessed the capacity, condition, risks, and costs of upgrading individual treatment and pumping units. The overall upgrade cost was then used to perform a life cycle (capital and operating) cost comparison of upgrading versus replacement of the facilities. The preliminary report was successfully completed on a 60 day fast-track basis. The PER was followed by a more detailed preliminary engineering, process evaluation, and total project scheduling. The design was then completed on a fast track schedule. The completed project is a major step toward modernization of the RFAAP’s plant infrastructure. Survey Manager.

**Water Treatment Plant Upgrades**, Town of Bluefield, VA. Assisted the Town with major improvements to the Town’s 45 year old 1.5 MGD water treatment plant. Building improvements included door and window replacements and renovation of the plant laboratory. Work also included the upgrade of the plant’s electrical and control systems including a new service and motor controls and a SCADA system. Process improvements included rebuilding of the filter and flocculators, and the installation of new chemical feed equipment. The finished water pumps were also upgraded to provide additional head and capacity and operator control. Survey Manager.

**Pump Station Emergency Generator**, Blacksburg-Christiansburg VPI Water Authority, VA. Blacksburg-Christiansburg-VPI Water Authority (BCVPI) owns and operates two raw water pump stations, three treated water booster pump stations, and a 12.4 mgd water treatment plant in Montgomery County, Virginia. During the winter of 1994, Montgomery County experienced severe weather resulting in ice accumulation on trees, roads, and power lines. BCVPI lost electrical service for a 42-hour period and were unable to pump or treat water, forcing them to discontinue service to its customers. In order to prevent this from ever occurring again, BCVPI decided to install, in phases, emergency generators at its key facilities. This project is an important component of their “emergency management plan” and consists of the installation of a 1000 kW emergency generator at its raw water pump station located at New River in Radford. Survey Manager.

**Pounding Mill Water System Improvements**, Alleghany County, VA. Engineering services for the interconnection of the Pounding Mill Water System to the Covington High Service Water System. Services included a hydraulic analysis of the Pounding Mill system, topographic survey of the proposal waterline route, and design of the new waterline. The design included approximately 1,000 linear feet of waterline, tank modifications, installation of a pressure sustaining altitude valve, and conversion of a remote operated valve to a pressure reducing valve. Survey Manager.
Since joining Anderson & Associates, Mr. McNinney has gained extensive experience in water and wastewater system design. He has developed expertise in system modeling and flow testing. His experience includes compiling information, creating models, and performing flow tests to check for accuracy. His experience is highlighted below:

Job Specific Experience:

**Hydraulic Model Development**, Virginia Tech, Blacksburg, VA. Virginia Tech targeted a need for the development of a calibrated hydraulic model and a full water distribution system leak survey. The campus water distribution system was comprised of approximately 27 miles of water line, 114 fire hydrants, and 769 valves. In order to minimize disturbance to campus, fire hydrant flow testing was performed during times when the student population was low. Additional services included data compilation for the initial model setup. This included the incorporation of the Town of Blacksburg hydraulic model. The Town of Blacksburg system was interconnected to the Virginia Tech system at 7 master meter connections. The final stages included field testing and calibration of the completed model. Virginia Tech plans to use the calibrated hydraulic model to evaluate existing and future demands throughout the distribution system. Project Engineer.

**Coaldale Mountain Waterline Extension Project**, WV DEP Abandoned Mine Lands, WV. The Coaldale Mountain Waterline Extension Project involves extending water service to residents along Bramwell Hill Road and Coaldale Mountain Road who currently collect rainwater or haul water for use at their residences. A&A is responsible for surveying and performing hydraulic modeling, preliminary design, and final design of 33,000 linear feet of water line, a booster station, a 75,000 water storage tank, and appurtenances. This project is extending water to residents by utilizing a connection with the Bluewell Public Service District along Bramwell Hill Road and constructing a booster station to fill the 75,000 gallon water storage facility on Coaldale Mountain. A&A is also working closely with the WVDEP and PSD throughout the construction bid and construction processes by performing shop drawing reviews and providing resident project representative services. Project Engineer.

**Water Distribution System Improvements**, Radford Army Ammunition Plant (RFAAP), Radford, VA. Alliant Techsystems, Inc. (ATK) operates the RFAAP, a plant that produces rocket and gun propellants and other energetic materials. A&A assisted ATK by evaluating the current water distribution systems at plant. Systems evaluated included the potable drinking water system, the filtered water system, and the fire suppression water system at RFAAP. The goals of the project were to build a hydraulic model from existing information, to determine locations to install zone metering, and individual meters, and to determine locations for flushing hydrants. Due to age, the system also had a high rate of unaccounted water, and the project helped to determine locations and methods of repair to the system. ATK requested a fast turn-around time of 90 days for the evaluation portion of this project which A&A successfully met. Construction
Background

- Experience in building projects including new construction and renovation of existing facilities. Experience includes research, office and administrative type buildings utilizing both design-bid-build and design-build project delivery.
- Experience in 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

- **Bedford County Public Service Authority, Bedford, VA**
  - New London Business and Technology Center Park - Project Manager for the design of approximately 2,600 feet of 8-inch and 12-inch waterlines and approximately 4,900 feet of 8-inch gravity sewer to serve various lots within the Park.
  - Goode/Casaloma Waterline Extensions - Project Manager for the design of approximately 22,000 feet of 12-inch and 8-inch diameter water transmission main and service line. The project included evaluation of proposed waterline improvement alternatives, survey, and design phase services.
  - Everett Road Waterline - Project Manager for design of approximately 10,400-feet of 12-inch diameter water transmission main. The project included survey, design, and construction inspection services.
  - Mill Acres Neighborhood Waterline Extension - Project Manager for design of approximately 3,100-feet of 6-inch diameter waterline. The project included survey and design services.
  - New London Business & Technology Center Pump Station and Force Main - Project Manager for design of approximately 25,500-feet of 12-inch diameter sanitary sewer force main and wastewater pumping station. The pump station was designed for a flow condition of 750 gallons per minute at 248 feet TDH to meet the projected demand for the Tech Center and surrounding area. The force main design included nine roadway crossings and one railroad crossing.
  - New London Business & Technology Center Phase 1 On-site Sewer - Project Manager for the design of approximately 6,000-feet of 8-inch and 12-inch gravity sewer to serve the Phase 1 development within the Tech Center.
Wastewater Collection, Conveyance, and Treatment
Preliminary Engineering Report - Project Engineer for the
preparation of a Preliminary Engineering Report that identified
and evaluated various alternatives for providing wastewater
collection and treatment to the Smith Mountain Lake/Moneta,
Montvale, New London/Forest, and Stewartsville areas within
Bedford County. Alternatives evaluated included various
combinations of gravity sewers, pump stations and force
mains, and satellite vs. centralized wastewater treatment plant
construction. Gravity and force main sewer options included
characterizing existing sanitary sewer flow generation and
projecting ultimate demands for the service areas. Pump
station locations were evaluated to maximize the service areas
and to meet County requirements for zoning and land use.

Wastewater Treatment Plant, Town of Orange, VA
Project Manager for a 3.0-MGD wastewater treatment plant
improvement project and a sanitary sewer collection system
evaluation project. The project included the evaluation of the
Town’s existing WWTP, developing design criteria for immediate
improvements, developing flow projections, evaluation expansion
and upgrade option for the plant to meet new Chesapeake Bay
Standards and infiltration and inflow study. The plant design
included upgrading and expanding the existing facility to provide
enhanced nutrient removal. The project also included
approximately 14,000 feet of 24-inch interceptor from the Town to
the WWTP.

Water System Improvements, Culpeper County, VA
Lead Project Engineer for the design of various water system
improvements, which included a new raw water supply, a 0.864-
MGD WTP, raw water system, and finished water distribution and
storage improvements to support area growth needs. Design
included four well pumps and pump houses, 100,000-gallon raw
water storage tank and a 600 GPM raw water pump station, 600
GPM raw water aerator unit, two 300 GPM vertical pressure filters,
three 200 GPM granular ferric hydroxide absorption vessels
(arsenic removal), chemical feed systems for disinfection,
fluoridation, filter coagulant aid, corrosion control, and radium
removal, 350,000-gallon finished water clearwell and a 900 GPM
finished water pump station, and a 750,000-gallon elevated water
storage tank. This project also included construction phase
services.
Background

- Design experience includes evaluation and design of gravity storm and sanitary sewers, street improvements, site improvements, waterline upgrades, extended detention ponds, sanitary sewer interceptors, combined sewer overflow solutions, and sanitary sewer rehabilitation
- Served as design engineer on multiple City of Lynchburg Combined Sewer Overflow projects which included 63,000 feet of 8-inch to 30-inch gravity sewer and 27,000 feet of 8-inch to 24-inch sanitary sewer rehabilitation

Project Experience

- **Wastewater Treatment Plant, Town of Orange, VA**
  Civil Engineer for a 3.0-MGD wastewater treatment plant improvement project and a sanitary sewer collection system evaluation project. The project included the evaluation of the Town’s existing WWTP, developing design criteria for immediate improvements, developing flow projections, evaluation expansion and upgrade option for the plant to meet new Chesapeake Bay Standards and infiltration and inflow study. The plant design included upgrading and expanding the existing facility to provide enhanced nutrient removal. The project also included approximately 14,000 feet of 24-inch interceptor from the Town to the WWTP.

- **Water System Improvements, Culpeper County, VA**
  Civil Engineer for the design of various water system improvements, which included a new raw water supply, a 0.864-MGD WTP, raw water system, and finished water distribution and storage improvements to support area growth needs. Design included four well pumps and pump houses, 100,000-gallon raw water storage tank and a 600 GPM raw water pump station, 600 GPM raw water aerator unit, two 300 GPM vertical pressure filters, three 200 GPM granular ferric hydroxide absorption vessels (arsenic removal), chemical feed systems for disinfection, fluoridation, filter coagulant aid, corrosion control, and radium removal, 350,000-gallon finished water clearwell and a 900 GPM finished water pump station, and a 750,000-gallon elevated water storage tank. This project also included construction phase services.
Background

- Work and previous experience covers a wide variety of building types, including municipal, state, and federal government projects, as well as, private sector work
- Involved in all phases of architectural practice from client contact to final completion

Project Experience

- **Town of Orange, VA**
  Architect for a 3.0-MGD wastewater treatment plant improvement project and a sanitary sewer collection system evaluation project. The project included the evaluation of the Town’s existing WWTP, developing design criteria for immediate improvements, developing flow projections, evaluation expansion and upgrade option for the plant to meet new Chesapeake Bay Standards and infiltration and inflow study. The plant design included upgrading and expanding the existing facility to provide enhanced nutrient removal. The project also included approximately 14,000 feet of 24-inch interceptor from the Town to the WWTP.

- **Water System Improvements, Culpeper County, VA**
  Architect for the design of various improvements to a 0.864 MGD water treatment plant, raw water system, and finished water distribution and storage improvements to support area growth needs. Design included four well pumps and pump houses, 100,000-gallon raw water storage tank and a 600 GPM raw water pump station, 600 GPM raw water aerator unit, two 300 GPM vertical pressure filters, three 200 GPM granular ferric hydroxide absorption vessels (arsenic removal), chemical feed systems for disinfection, fluoridation, filter coagulant aid, corrosion control, and radium removal, 350,000-gallon finished water clearwell and a 900 GPM finished water pump station, and a 750,000-gallon elevated water storage tank. This project also included construction phase services.

- **New Ashcake Waterline, Hanover County, VA**
  Architect for the design of 13,300 feet of 24-inch waterline along Route 643 (New Ashcake Road) to provide domestic water and fire protection for growth in the Mechanicsville and Ashland areas of the County. The new waterline was sized for future growth and extension to the western end of the service area.
Scott M. Francis, PE, LEED AP  
Project Assignment: Structural Engineer

Company Title  
- Senior Engineer, Structural Department

Professional Experience  
- 14 Total Years  
- <1 Years with Wiley|Wilson

Education  
- BS, Civil Engineering, The George Washington University  
- BS, Geology, Virginia Polytechnic Institute and State University

Professional Engineer  
- VA

Organizations  
- American Society of Civil Engineers  
- Virginia Structural Engineers Council

Certifications  
- Structural Engineering Certification Board (SECB)  
- LEED Accredited Professional

Background  
- Managed and designed all facets of structural engineering projects including project initiation, schematic design, design development, preparation of construction documentation, bidding, and construction administration.  
- Performed structural design of government, commercial/industrial, cultural, educational/religious, residential, and miscellaneous site structures.  
- Designed structures constructed of wood, steel, cast-in-place concrete, precast concrete, and masonry.  
- Conducted forensic review of existing residential, commercial, and site structures.

Project Experience (Including Work for Other Firms)  
- USACE, Air Force/Navy Dining Hall, Fort Lee, VA  
  Performed the structural design and construction administration for the one (1) story approximately 18,000 square foot combined Air Force/Navy Dining Facility constructed in Fort Lee, Virginia. This structure was awarded a gold rating by the United States Green Building Council (USGBC) as part of their Leadership in Energy and Environmental Design (LEED) program.

- USACE, Company Operations Facility, Fort Lee, VA  
  Performed the structural design and construction administration for the one (1) story approximately 16,000 square foot Company Operations Center with attached high bay storage area constructed in Fort Lee, Virginia.

- VDFP, Statewide Prototype Burn Building Prop Facilities  
  Developed prototype drawings for four (4) different models of burn building props to be used as the basis for design for localities within the state who participate in the VDFP burn building grant program. The four models included two (2) cast-in-place concrete buildings and two (2) pre-engineered metal buildings designed to support firefighter live fire training activities.

- Quarterpath Pump Station, Williamsburg, VA  
  Provided the structural design of the wastewater pump station within the Quarterpath development in Williamsburg, Virginia. Sized the foundations for the wet well to resist uplift forces from the high water table in the area.
Background
- Experience in mechanical engineering and project management with an emphasis on new and renovation work
- Extensive experience in construction administration; field investigations; cost estimates; studies; documentation of existing conditions; and preparation of designs for new and renovated facilities for industrial, commercial, institutional, state, and federal clients

Project Experience
- Culpeper County Water and Sewer Authority, Culpeper, VA
  Mechanical Engineer performed QA/QC on the mechanical design for a new 0.9 MGD wastewater and water treatment plant. The project consisted of a Control Building, Blower/Electrical Building, Chemical Building, Effluent Filter Structure, Belt Press Building, Water Treatment Building, and Well Houses.

- Raw Water Intake, Pump Stations, and Transmission Main, City of Harrisonburg, VA
  Mechanical Engineer for the mechanical design of a new 8 MGD raw water source on the South Fork of the Shenandoah River, including design of new intake structure, intake pump station, 11 miles of 24-inch raw water main, including an intermediate booster pump station. Work included new source permitting, routing and alignment alternatives analysis, easement preparation, hydraulic modeling, and final detailed design.

- Lynchburg Water Treatment Plants, Lynchburg, VA
  Mechanical Engineer provided comprehensive professional services to the City of Lynchburg relating to planning, design, and construction for their water utilities projects.

- Commonwealth of Virginia, Department of Mental Health, Mental Retardation, and Substance Abuse Services, Richmond, VA
  Upgraded the Hospital's 360-ton chilled water plant. The design included two water-cooled screw chillers, induced-draft, crossflow cooling tower, ozone condenser water treatment system, vertical split case pumps, refrigerant monitoring and ventilation air system, and direct digital control system.
Stephen A. (Steve) Bowman, PE
Project Assignment: Electrical Engineer

Background
- Experience at all levels of electrical power systems design
- Medium voltage distribution systems analysis, design, and protection; as well as, master planning efforts for these systems
- Designed low voltage electrical systems for buildings, both new facilities and renovations

Project Experience
- **Wastewater Treatment Plant, Orange County, VA**
  Designed the wastewater treatment plant electrical portion to include site lighting, new electrical service, all power associated with wastewater treatment and filtration, and building lighting.

- **Wastewater Treatment Plant, City of Lynchburg, VA**
  Project Manager and Technical Lead for a coordination study and arc flash hazard analysis at the plant. The project was initiated due to existing protective device coordination problems and the need for an arc flash hazard analysis of this 15 MGD wastewater plant. Provided printed labels for electrical equipment.

- **Fairfax County Water Authority, Occoquan Site Security, Fairfax, VA**
  Designed electronic security improvements for dam site. Work included fiber optic intrusion detection system (FOIDS) on chain link fencing, closed circuit television (CCTV) cameras, and a radar perimeter intrusion detection system. The radar system was integrated with the CCTV cameras to allow remote operators to automatically view intruders who might approach the dam from the reservoir side.

- **Crystal Spring Water Treatment Plant, City of Roanoke, VA**
  Designed the electrical power system for a new 5.0 MGD membrane filtration water treatment plant, as well as lighting and power systems for the new building housing this plant. Designed peripheral instrumentation systems for monitoring of the water treatment process.

- **Hanover County, VA**
  Electrical Engineer provided electrical design and specifications review for the design of the New Ashcake Road waterline.
Background

Broad range of environmental engineering experience in academia, industry and the consulting field including extensive research, pilot studies, and process design. Water process experience involves conventional processes plus high rate filtration, ozonation and carbon adsorption. Follows development of new regulations under the Safe Drinking Water Act (SDWA) closely, and is involved with major pilot studies to comply with present and pending regulations. Wastewater process experience involves physical/chemical and biological processes including the development of rational design models for trickling filters and rotating biological contractors. Extensive experience with carbon adsorption, regeneration, and nitrification.

Project Experience

2002 – Present Environmental Process Consultant. President and sole proprietor of a firm that provides water and wastewater process expertise to consulting firms, industry, and municipalities.

- Process Engineer – Assist Wiley|Wilson with an evaluation of the Williamsburg Water Treatment Plant to improve performance and ensure compliance with the SDWA. This included an extensive analysis of historical operating data with special emphasis on total organic carbon, alkalinity, turbidity, and disinfection by-products. Jar tests were conducted to guide improvements for TOC removal, and backwash tests and sieve analysis were also performed. Procedures were subsequently recommended to institute enhanced coagulation, improve plant performance, and complete IDSE and Cryptosporidium Monitoring Plans.
- Process Engineer – Assist Wiley|Wilson with a treatment process for the Culpeper groundwater treatment system for the removal of iron, manganese, radon, and radium to comply with the SDWA and increase capacity. This involved the evaluation of data from new and existing wells, the projection of blended water conditions at 600 gpm flows, and the evaluation of alternate treatment processes to achieve regulatory compliance.
- Process Engineer – Evaluate corrosion in a confidential client’s distribution system for Wiley|Wilson and recommend corrective action to resolve the problem. This involved an evaluation of historical data, the calculation of stable water values, and recommendations to resolve the corrosive conditions.
1989 - 2002  **Parsons Engineering Science.**  Vice President (1993-2002).  Responsible for Water and Wastewater Processes worldwide.  This involves serving as senior process designer or Technical Director on water supply and treatment projects from 5 mgd to 600 mgd and wastewater treatment projects from less than 1 mgd to 100 mgd.  The wastewater treatment projects involved conventional as well as biological nutrient removal processes.

- Principal Investigator- AWWA Research Foundation study on “Natural Organic Matter in Drinking Water: Recommendation to Water Utilities”
- Technical Manager, Water and Wastewater Processes (1989-1993).  Responsible for providing technical assistance on municipal water and wastewater processes within Parsons Engineering Science.  The scope includes a comparison of existing, or pending, regulations to existing plant performance, the selection of treatment processes and assistance with pilot studies.  Review of projects to insure compliance with the ES Quality Assurance Policy.


1968-1974  **Georgia Institute of Technology.**  Atlanta, Georgia.  Assistant (1968-1972) and Associate (1972-1974) Professor, School of Civil Engineering

Henry G. Myers  
Vice President/Project Executive

**Education**  
Bachelor of Science Civil Engineering, University of Virginia, 1997 graduate  
Masters of Business Administration, Lynchburg College, 2005 graduate

**Employment**  
English Construction Company, Inc. – June 1998 - Present

**Certifications/Skills**  
Class A Contractor’s License in Virginia & North Carolina  
Member of American Society of Civil Engineers

**Project Experience:**  
- County of Buckingham Water Treatment Plant, Dillwyn, VA
- Charles City Road Sewage Pumping Station, Henrico County, VA
- Neuse River Wastewater Treatment Plant Expansion to 75 MGD, Blower Expansion, Contract 1, Raleigh, NC
- North Fork Regional Pump Station and Camelot Pump Station, Charlottesville, VA
- South Church Street Water Treatment Facility, Smithfield, VA
- Henry L. Lanum, Jr. Water Filtration Plant Technology Upgrade, Amherst, VA
- Parham Landing Wastewater Treatment Plant Upgrade, New Kent County, VA
- Nutrient Removal Upgrade Project, Lexington-Rockbridge Regional WQCF, Lexington, VA
- Fredericksburg Wastewater Treatment Plant Upgrade, Fredericksburg, VA
- Orange County Wastewater Treatment Plant Upgrades, Culpeper, VA
- Westside Wastewater Treatment Plant Upgrades, High Point, NC
- Town of Front Royal Water Treatment Plant Upgrades, Front Royal, VA
- Mt. Jackson Wastewater Treatment Plant, Mt. Jackson, VA
- Middle River Wastewater Treatment Plant Upgrades, Verona, VA
- Town of Lovettsville Wastewater Treatment Plant Upgrades, Lovettsville, VA
- Clevengers Village Water Treatment Plant and Clevengers Village Well and Pump Installations, Culpeper County, VA
- St.Brides Correctional Center Wastewater Treatment Plant Upgrade, Chesapeake, VA
- Chatham Wastewater Treatment Plant, Chatham, VA
- Moore’s Creek Influent Screen Facility, Charlottesville, VA
- Moneta Wastewater Treatment Plant & Collection System, Moneta, VA
- Smith Mtn Lake Development Linework; Bridgewater Bay, Lake Watch, Mariner’s Landing, Bedford & Franklin Counties, VA
- Deerfield Correctional Facility Wastewater Treatment Plant, Capron, VA
- Rapidan Waste Water Conveyance System, Greene County, VA
- New London Pump Station, Forest, VA
- Clarksville Water Treatment Plant, Clarksville, VA
- Rutledge Creek Wastewater Treatment Plant, Amherst, VA
- Pigeon Creek Interceptor, Lynchburg, VA
L. Robert Halpin
Chief Estimator

**Education:**
B.S. in Forest Engineering
College of Environmental Science and Forestry, State University of New York at Syracuse

**Work Experience:**
1981 - Present - *English Construction Company, Inc., Lynchburg, VA*

1981 – 1989:
- Assistant Superintendent on Virginia Baptist Hospital expansion
- Superintendent on several bridge repair projects
- Superintendent on a pump station for the Town of Hurt, VA
- Coordinator on a new Hydroelectric Facility for the City of Bedford, VA
- Engineer in charge of layout for various highway, bridge and plant jobs

1989: Began work in the office as assistant project manager on water and wastewater treatment plants.

Experiences as a Project Manager include:
- Site development for Co-generation Facility for UWCI in Altavista, VA
- Construction of Industrial Landfill for Virginia Fibre in Amherst Co.
- Construction of landfill expansion for Roanoke Co.
- Expansion and filter upgrades to Water Treatment Plants for the Town of Gretna, the Town of Altavista, and City of Radford, VA and City of Reidsville, NC
- Expansion of Library and construction of a new Aquatic Center for Fork Union Military Academy

Additional responsibilities include estimating for plant and building projects and for PPEA projects.

1973 – 1981 – *The Lane Construction Corporation*
Engineer in charge of layout for various highway and Corps of Engineers projects. Responsibilities included scheduling and cost controls.

1972 – *The Pyramid Companies*
Assistant Superintendent on shopping center construction.
ROBERT W. LEE, III, LEED, AP
PRECONSTRUCTION MANAGER / COST ESTIMATOR
ENGLISH CONSTRUCTION COMPANY, INC.

EDUCATION:
The College of William and Mary, B. A.

Robert’s has over thirty-one years experience in the construction industry and has covered all aspects of construction from planning to completion, from the field to management.

His past responsibilities have ranged from jobsite supervision, scheduling, and company safety with an extensive background in project estimating. Other responsibilities include contract negotiation, design-build and project management. As Vice President of John W. Daniel and Co., he was responsible for the day to day operation and supervision of all staff, field employees and contracts of a company with annual receipts averaging $38,000,000.00.

He is actively involved with the AGC of VA having served as Southside District President and on numerous state committees.

Robert Lee will serve as the Lead member of our Preconstruction Team. Robert’s responsibilities include coordination of all preconstruction activities, including budget and initial Guaranteed Maximum Price (GMP), solicitation of all major subcontractors, coordination of estimating activities, establishing final GMP’S and quality control throughout the project.

PROJECT EXPERIENCE:

Construction Management with Design Services **Targeting LEED Silver**
Fork Union Jacobson Hall Barracks, Fork Union, VA $11,636,952
Completed 8/12

Construction Management with Design Services
Liberty University Student Residence Hall $42,000,000
In Progress

Construction Management with Design Services
Longwood University Residence Halls, Farmville, VA $39,414,900
In progress

Construction Management
Liberty University Medical Science Building, Lynchburg, VA $31,000,000
In progress

PPEA/ Construction Management with Design Services **Targeting LEED Silver**
Fredericksburg New Courthouse and Facilities, Fredericksburg, VA $31,865,831
In progress

Construction Management
Campus Walk Apartments, Farmville, VA $8,571,000
In progress
John M. Ellmore, Sr.
Superintendent

Education
Ferrum College A.A. Degree 1977

Employment
English Construction Company, Inc. – May 1977 - Present

Certifications/Skills
- C.P.R.
- First Aid
- Osha Scaffold Training
- Environmental Controls State of Virginia
- Traffic Control V.D.O.T.
- State of Virginia-Field Concrete Tech
- Virginia Erosion & Sedimentation Responsible Land Disturber

Project Experience:
Project Superintendent on the following projects:
- City of Richmond WWTP-NRP Contract #5, Richmond, VA
- Ferrum College Biomass Project, Ferrum College, Rocky Mount, VA
- Clifton Forge Wastewater Treatment Plant Conversion to Pump Station and Force Main, Alleghany County, VA
- Middle River Wastewater Treatment Facility ENR Upgrade, Verona, VA
- Town of Mount Jackson Wastewater Treatment Plant Expansion & Upgrade, Mount Jackson, VA
- Water Treatment Plant Upgrade, Town of Front Royal, VA
- Moneta Wastewater Treatment Plant and Collection System, Moneta, VA
- Montvale Wastewater Treatment Plant, Bedford Co., VA
- 10 MGD Water Treatment Plant, Salem, VA
- Water Treatment Plant Improvements, Contract A – General & Mechanical Reidsville, NC
- Water Treatment Plant Expansion, Phase 1B, Altavista, VA
- Renovation Water Treatment Plant, Radford, VA
- Wastewater Treatment Plant Improvements – Phase 2, Lynchburg, VA
- Wastewater Treatment Works Improvements, Farmville, VA
- Wastewater Treatment Plant Improvements, Eden, NC
- Wastewater Treatment Plant, Martinsville, VA
- Wastewater Treatment Plant, Div. XII, Richmond, VA
- Water Treatment Plant, Wytheville, VA
- Wastewater Treatment Plant Improvements, Wake Forest, NC
- Peters Creek Road Extension, Roanoke, VA
- CSX Bridge – Lynchburg, VA
- Rt. 29 Bypass, Lynchburg, VA
- Academy of Music – Lynchburg, VA
Ricky Tuck
Superintendent

Education
Staunton River High School

Employment
H. Hamner Gay
English Construction Company, Inc. – November 1975-Present

Certifications
Scaffolding
E & S Control
CPR/First Aid
Confined Space Training

Project Experience
Salem Treatment Plant
Amherst Wastewater Treatment Plant
Chatham Prison
Moneta Wastewater Treatment Plant
Mt. Jackson Wastewater Treatment Plant
Middle River Wastewater Treatment Plant
Lexington-Rockbridge Regional WQCF
Powhatan Correctional Center Wastewater Treatment Plant Upgrade
Mike Scott is a career safety professional ensure that English’s work is performed safely complying with all applicable state requirements and English’s Safety Manual. His experience in the safety field has ranged from complicated bridge and roadway project to structural building, including tremendous fall protection experience as well as the issues that arise during large excavation operations as well. Mike came to English in 2010 from Skanska having been their Environmental Health and Safety Coordinator for seven (7) years in which he was responsible for the safety management of multiple job sites ranging in excess of $140 million dollars (i.e. inspect for job safety violations and environmental hazards, working with subcontractors to develop site specific safety plans, investigate and document incidents of injury if occurred).

PROJECT EXPERIENCE:

- County of Buckingham Water Treatment Plant, Dillwyn, VA
- Charles City Road Sewage Pumping Station, Henrico County, VA
- Neuse River Wastewater Treatment Plant Expansion to 75 MGD, Blower Expansion, Contract 1, Raleigh, NC
- North Fork Regional Pump Station and Camelot Pump Station, Charlottesville, VA
- South Church Street Water Treatment Facility, Smithfield, VA
- Henry L. Lanum, Jr. Water Filtration Plant Technology Upgrade, Amherst, VA
- Parham Landing Wastewater Treatment Plant Upgrade, New Kent County, VA
- Nutrient Removal Upgrade Project, Lexington-Rockbridge Regional WQCF, Lexington, VA
- Fredericksburg Wastewater Treatment Plant Upgrade, Fredericksburg, VA
- Orange County Wastewater Treatment Plant Upgrades, Culpeper, VA
- City of Richmond WWTP-NRP Contract #5, Richmond, VA
- Ferrum College Biomass Project, Ferrum College, Rocky Mount, VA
- Clifton Forge Wastewater Treatment Plant Conversion to Pump Station and Force Main,
- Invista S.A.R.L. Waynesboro Plant, Waynesboro, VA
- Coeburn-Norton-Wise Regional Wastewater Treatment Plant Expansion, Wise County, VA
Mathew J. Hall
Assistant Project Manager

Education
Central Virginia Community College, Lynchburg, VA – AAS Management

Employment
English Construction Company, Inc. – June 2000 - Present

Certifications/Skills
PMI-SP (Project Management Institute-Scheduling Professional)
OSHA 10 Certification
Confined Space Training

Project Manager Experience:
• C.N. Chitty Booster Pumping Station Electrical and Pump Upgrades, Winston-Salem, NC
• Three Creek Wastewater Treatment Plant, Biosolids Building and Plant Modifications, Emporia, VA
• Powhatan Correctional Center Wastewater Treatment Plant Upgrade, State Farm, VA
• Tinker Creek Sanitary Sewer Interceptor, Botetourt Co., VA
• Gretna Whitethorn Water Supply – Phase III Intake, Gretna, VA

Scheduler Experience:
• Westside WWTP, High Point, NC
• Mount Jackson WWTP, Mount Jackson, VA
• Rte. 221 Widening Project, Bedford Co., VA
• North Gayton Rd., Henrico Co., VA
• State Fair of Virginia at The Meadow, Caroline Co., VA
• Sunset Beach Bridge, Brunswick Co., NC

Field Engineer Experience:
• Bridgewater Pointe Condominiums, Smith Mountain Lake, VA
• Longwood University Field House, Farmville, VA

Field Engineer Trainee Experience:
• West Chemical Facility, Richmond, VA
• Moneta WWTP, Moneta, VA
• Cosby Road High School, Chesterfield VA

January 2004 - July 2005
• Began working full-time and helped bid numerous jobs.

June 2000 - December 2003
• Worked part/full-time during college helping with bids, drilling test holes, and doing various types of takeoff
• Operated grading and material takeoff program Agtek
# SUBMITTAL CERTIFICATION

<table>
<thead>
<tr>
<th>Name of Firm:</th>
<th>English Construction Company, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal shall be valid for 180 days. Agreement shall include a statement that “all materials and documents acquired or produced by the Design-Build team members, both individually and collectively, in conjunction with the resulting contract shall be delivered to and become property of the Authority without restriction or limitation of their future use.” As submitted, all of the content contained in this response to the Request for Qualifications becomes the property of the Authority without restriction or limitation of their future use. All of the content contained in this response to the Request for Qualifications is true and accurate to the best of my knowledge and belief.</td>
<td></td>
</tr>
<tr>
<td>Signature of Officer Authorized to represent firm in negotiations and sign any contract that may result:</td>
<td>[Signature]</td>
</tr>
<tr>
<td>Name of Officer:</td>
<td>Henry G. Myers</td>
</tr>
<tr>
<td>Title:</td>
<td>Vice President</td>
</tr>
<tr>
<td>Telephone:</td>
<td>434-845-0301</td>
</tr>
<tr>
<td>Fax:</td>
<td>434-845-0306</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:hmyers@englishconst.com">hmyers@englishconst.com</a></td>
</tr>
<tr>
<td>Federal Tax ID No.:</td>
<td>54-0472783</td>
</tr>
<tr>
<td>State Tax ID No.:</td>
<td>0054199-5</td>
</tr>
<tr>
<td>State of Incorporation:</td>
<td>Virginia</td>
</tr>
<tr>
<td>Address of office that will be responsible for performance of Firm:</td>
<td>615 Church Street, 2nd Floor, Lynchburg, VA 24504</td>
</tr>
<tr>
<td>Project Manager’s Signature:</td>
<td>[Signature]</td>
</tr>
<tr>
<td>Project Manager’s Name:</td>
<td>Henry G. Myers</td>
</tr>
<tr>
<td>Title:</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Telephone:</td>
<td>434-845-0301</td>
</tr>
<tr>
<td>Fax:</td>
<td>434-845-0306</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:hmyers@englishconst.com">hmyers@englishconst.com</a></td>
</tr>
</tbody>
</table>
We have no comments regarding the contract forms provided by the Authority.