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Header

List View

General Information Contact Default Values Discount DocumentInformation

Procurement Folder: 133553

SO Doc Code: CE01

Procurement Type: Central Contract - Fixed Amt

SO Dept: 0310

Vendor ID: 000000192564

SO Doc ID: DNR1600000010

Legal Name: RUMMEL KLEPPER & KAHL LLP

Published Date: 10/27/15

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Solicitation Description: Addendum;Greenbrier State Forest
AE Serv/water system improv

Total of Header Attachments: 0

Total of All Attachments: 0



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Solicitation Response**

Proc Folder : 133553

Solicitation Description : Addendum;Greenbrier State Forest AE Serv/water system improv

Proc Type : Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-12-01 13:30:00	SR 0310 ESR11301500000002447	1

VENDOR

000000192564
 RUMMEL KLEPPER & KAHL LLP

FOR INFORMATION CONTACT THE BUYER

Guy Nisbet
 (304) 558-2596
 guy.l.nisbet@wv.gov

Signature X **FEIN #** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Architectural engineering				

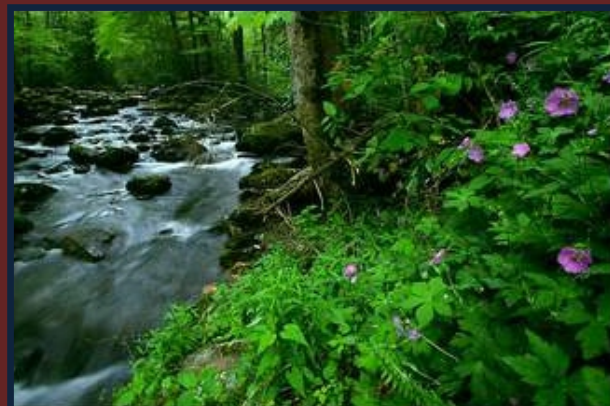
Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description : Water System Improvements at Greenbrier State Forest.



**DIVISION OF NATURAL RESOURCES
PARKS & RECREATION DIVISION**

Expression of Interest



Responsive People • Creative Solutions

December 1, 2015

Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

Reference: **Expression of Interest
Greenbrier State Forest
Water System Improvement**

Gentlemen:

Rummel, Klepper and Kahl, LLP (RK&K) is pleased to submit this Expression of Interest in response to the Department of Administration Purchasing Division's request for AE services for Greenbrier State Forest Water System Improvement Project.

RK&K is a 1,038-person, multidisciplinary, consulting engineering firm which has been successfully providing services to clients since 1923. RK&K's expertise includes water, sanitary, civil, environmental, utilities, transportation, structural, geotechnical, mechanical/electrical, and construction engineering management and inspection. Ranked #73 on the 2015 Engineering News Record's listing of Top 500 Design Firms, RK&K serves an array of Federal, State, and local clients from 19 offices throughout the mid-Atlantic and Southeastern states. RK&K has offices in West Virginia, Maryland, Virginia, North Carolina, Pennsylvania, Delaware, Florida, District of Columbia and Texas. The firm employs a diverse staff of engineers, planners, environmental specialists, surveyors, designers, draftsmen/CADD technicians, construction managers, inspectors, and support staff. RK&K's services include but are not limited to feasibility studies, project planning, preliminary engineering, final design, and construction inspection/management.

If chosen for this work, the projects will be overseen by Mr. **David G. Vanscoy, PE, PS.** from RK&K's Keyser, WV office. As RK&K's Director of Municipal and Transportation Engineering in West Virginia, Mr. Vanscoy has over 43 years of experience which includes all aspects of water projects.

Mr. **John W. Cole, PE** will assist Mr. Vanscoy as project manager. Mr. Cole has over 14 years of experience with water and sewer system projects very similar in the scope of work needed for the Greenbrier State Forest Water System Improvement Project. A registered professional engineer in West Virginia and Maryland, John will work closely with key team members and representatives of the WV Division of Natural Resources.

Mr. **Michael W. Myers, PE**, partner-in-charge, has assured that all appropriate resources will be made available to the project team for the timely completion of the projects while maintaining quality control as a top priority. The focus of the RK&K Team will be project success with on-time, on-budget delivery of services.

Department of Administration
Purchasing Division
December 1, 2015
Page 2



RK&K sincerely appreciates this opportunity to demonstrate our outstanding technical capabilities, team innovativeness, and unparalleled project commitment that have built success on other water and sewer projects. The RK&K Team looks forward to working with the WV Division of Natural Resources on these important projects.

Very truly yours,

RUMMEL, KLEPPER & KAHL, LLP

A handwritten signature in blue ink, reading 'David G. Vanscoy', written over a horizontal line.

David G. Vanscoy, PE
Director, Municipal and Transportation Engineering

DGV:rlc

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Rummel, Klepper & Kahl, LLP

Authorized Signature: [Signature] Date: 11/24/15

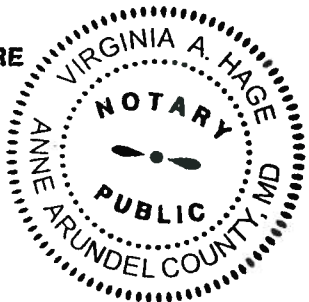
State of MD

County of Anne Arundel, to-wit:

Taken, subscribed, and sworn to before me this 24th day of November, 2015

My Commission expires 4/7/16, 2016.

AFFIX SEAL HERE



NOTARY PUBLIC

[Signature]

Purchasing Affidavit (Revised 08/01/2015)

CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Rummel, Klepper & Kahl, LLP

(Company)



MICHAEL W. MYERS, PARTNER

(Authorized Signature) (Representative Name, Title)

304-788-3370 304-788-3577 November 24, 2015

(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: _____

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Rummel, Klepper & Kahl, LLP

Company

Authorized Signature

November 30, 2015

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.
Revised 6/8/2012

**West Virginia
Division of Natural Resources
Park and Recreation Division**

**Greenbrier Forest State Park
Water System Improvements**

SECTION 1

SECTION 1



Qualifications and Resources



Responsive People • Creative Solutions



INTRODUCTION

In this section RK&K will present outstanding qualifications and resources relating to the needs of West Virginia Division of Natural Resources Greenbrier State Forest Water system Improvement Project.

QUALIFICATIONS

RK&K is a full-service firm providing creative solutions to clients for the past 92 years. As one of the most respected engineering firms in the region, RK&K has received numerous awards and recognition from clients and professional organizations for work performed on many diverse projects. Our biggest differentiator is our people. The RK&K Team is known for its technical know-how, over-the-top personal service, and - most importantly - successfully achieving our clients' goals.

RK&K's technical expertise places us 73rd on the Engineering News Record's 2015 listing of the Top 500 Design Firms. Our award-winning and diversified staff is experienced in an array of engineering disciplines, including planning; engineering design; and construction management, inspection and engineering for transportation, environmental, infrastructure, utility, site and surveying and energy/pipeline projects. Yet, every one of our 1,000+ team members understands what it takes to deliver success to our clients. Additionally, the firm employs experienced staff with the following professional registrations:

- American Institute of Certified Planner
- Certified Construction Manager
- Certified Environmental Inspector\Certified Floodplain Manager
- Certified Public Accountant
- Certified Building Commissioning Professional
- Design Build Institute of America
- Leed Accredited Professional
- Certified Pipeline Assessor (PACP)
- 40-Hour OSHA HAZWOPER
- Manhole Assessment and Certification Program
- NACE Certified Corrosion, Cathodic Protection & Coatings Specialist
- Professional Geologist
- Professional Wetland Scientist
- Professional Traffic Operations Engineer
- Professional Land Surveyor/Property Surveyor
- Registered Landscape Architect
- Qualified Professional (Forest Delineation)
- Construction Inspection Certifications including NICET, 10-Hour OSHA, among others

With more than 90 years of engineering experience, 69 of which involves water/sanitary and environmental engineering, RK&K has developed expertise in providing study, design, construction and project delivery for all aspects of water, wastewater and stormwater utility systems. This industry expertise makes RK&K a reliable partner to fulfill the requirements of these projects for the WV Division of Natural Resources.

RK&K's in-house services encompass planning, preliminary engineering and studies for evaluation of alternate designs, final design, development of contract documents for new construction, rehabilitation, replacement and construction inspection/administration services. RK&K's professional services include:

- **Sanitary Engineering:** water and sewer systems and facilities, industrial and solid waste disposal, water supply facilities, pollution control, and environmental evaluation
- **Utility Alignment, Rehabilitation, and Relocation:** sewer lines, water mains, storm drains, gas mains,

fuel lines, electrical ducts and communication ducts

- **Stormwater Management and Stream Hydraulics:** drainage structures, sediment & erosion control, hydrology/hydraulics, scour analysis, stream and floodplain studies, stormwater management facility design
- **Permit Application and Acquisition:** CERCLA, RCRA, NPDES, NEPA EA/EIS, wetlands, natural resources, floodplains, construction, erosion control
- **Environmental Engineering:** facility and site assessments; hazardous and toxic waste site characterization and remediation; spill plan development, spill containment system design; underground/aboveground storage tank system testing, design, installation and closure; and hazardous material handling
- **Natural Environment:** wetland delineations / mitigations; stream classifications / stabilizations; forest stand delineations; natural resource inventories; rare, threatened and endangered species surveys and biological assessments; and completing supporting environmental technical reports, documentation and regulatory agency coordination
- **Natural Gas, Petroleum and Pipeline Engineering:** natural gas distribution systems and transmission pipelines; pressure regulation and measurement facilities; petroleum pipelines, storage, distribution and related facilities; and storage and training facilities
- **Site Development:** educational, medical, commercial, industrial, recreational/sports, military and waterfront facilities
- **Construction Management and Inspection:** bridges, highways, buildings, transit systems, utilities and public works facilities; CPM scheduling; claims; materials testing
- **Transportation Engineering:** highways, interstates, freeways, roadways and streets, interchanges, toll facilities, collector-distributor roads, roundabouts, railroads and mass transit, airport facilities
- **Traffic Engineering:** traffic forecasting and analysis; highway signing, pavement marking and lighting; traffic signal design; traffic control; maintenance of traffic during construction; traffic impact studies; high accident location studies; travel time/delay studies; warrant, capacity, intersection/interchange, arterial, queuing and roundabout analyses; and trip generation/distribution
- **Structural Engineering:** new bridges, bridge replacements, bridge rehabilitation, and related transportation structures, tunnels, site-specific utility structures, culverts, retaining walls, noise barriers, foundations, piers, bulkheads, relieving platforms and jetties, structural inspection, condition evaluation and ratings
- **Geotechnical Engineering/Geology:** retaining walls, foundations, dams/impoundments, groundwater supply/management/quality investigations, slope stability, dredged material management
- **Geographic Information Systems (GIS):** GIS needs analysis, master plans, design/development and deployment, relational database administration (RDBMS), data automation and conversion services, field collection and data verification (conventional and GPS), custom GIS programming and integration services, document scanning, catalog and on-line image archive development.



CAPACITY OF THE FIRM

Rummel, Klepper & Kahl, LLP (RK&K) is a 1,038-person multidisciplinary consulting engineering firm providing services throughout the Mid-Atlantic and Southeastern states. Since our founding in 1923, the RK&K team has satisfied both public and private sector clients by providing multi-discipline planning, engineering, environmental, and construction phase services. We offer innovative and efficient solutions on a variety of projects nationwide from 19 offices in eight states and Washington, DC. We collaborate with clients and teaming partners, ensuring a commitment to quality in achieving their goals.

RK&K is managed by five equal partners within a limited liability partnership; current partners include:

- **Michael W. Myers, PE**
- **J. Michael Potter, PE, CCM**
- **Thomas E. Mohler, PE**
- **Mark M. Dumler, Esq. CPA**
- **Carolann D. Wicks, PE**

Working closely with these partners are Partner Emeritus David W. Wallace, PE, Senior Directors and Directors - key leaders who manage and coordinate projects and staff, serve as liaisons with clients and subconsultants, and enhance projects with their vital technical expertise. RK&K presently has 36 Senior Directors and Directors in nine of our offices.

RK&K's services are provided from numerous locations throughout the Mid-Atlantic, Southeast and Texas, including:

- **Keyser, West Virginia**
- **Baltimore, Maryland (2 Locations)**
- **Washington, DC**
- **Wilmington, Delaware**
- **Fairfax, Richmond, Virginia Beach, Newport News, Virginia**
- **King of Prussia, York, Allentown, Pennsylvania**
- **Raleigh, Charlotte, Greensboro, North Carolina**
- **Lakeland, Orlando, Tampa, Florida**
- **Houston, Texas**

If chosen for these projects, work will be done from RK&K's Keyser, WV office. The Keyser office houses a well-diversified staff of 28 engineers, planners, surveyors, designers, draftsmen/CAD technicians, construction managers, inspectors, and support staff. Keyser's office staff works seamlessly with our headquarters' staff in Baltimore, Maryland, as well as the other RK&K offices throughout the Mid-Atlantic, Florida and Texas. David G. Vanscoy, PE, Director Municipal and Transportation Engineering and John W. Cole, PE, Project Manager have the ability to reach throughout the firm to provide additional support if the need arises. Overall, RK&K includes over 245 professional engineers registered in 26 states. RK&K's project team will be supported from a multi-disciplined staff qualified in the disciplines noted below:

- Civil Engineers
- Sanitary/Environmental Engineers
- Utility Engineers
- Structural Engineers
- Construction Inspectors
- Construction Managers
- Draftspersons/CADD
- Mechanical Engineers

Division of Natural Resources
Greenbrier State Forest
Water System Improvement

- Electrical Engineers
- Geologists
- Soils Engineers
- Surveyors
- Archeologists
- Planners
- Environmental Scientists
- Hydraulic Water Resources Engineers
- Environmental Designer/Technicians
- Traffic Engineers
- Landscape Architects
- Transportation Engineers/Designers
- Technical/Administrative Support
- Computer Programmers/Technicians
- Graphics Specialists
- GIS Specialists
- Contract Administrator

QUALITY ASSURANCE/QUALITY CONTROL

A key aspect to delivering a satisfactory project, complete, on schedule, and within budget is the utilization of a QA/QC program. Quality Control for each assignment will be performed by every employee working on this project through the rigorous application of appropriate criteria and sound engineering practice. Team members will utilize RK&K's established QA/QC program. The three tenets of RK&K's QA/QC Program are:

PROJECT MANAGEMENT CONTROL

Coordinating and interfacing with team members will assure proper direction and flow of information. The successful implementation of such a course of action will require daily contact between the Project Manager and key staff members. RK&K also will implement an established in-house Staff Operating Plan (SOP) which has proven successful in the past. RK&K's SOP consists of the following:

- Periodic RK&K management meetings conducted by the Project Manager with other key RK&K staff. The purpose of these meetings will be to review progress, costs and schedules; set priorities; assign staff; identify and discuss problems and develop solutions or approaches to the solutions to these problems.
- An action item list will be developed at the first meeting and updated at each subsequent meeting. The list will consist of an item, the date of its identification, the person who must perform the action to resolve or address the item, and deadline dates for resolution. The updated action item list will be distributed by the Project Manager to key staff. Each person participating in the meetings will provide a status report.

QUALITY OF WORK

RK&K recognizes the importance of developing the highest quality studies, designs and contract documents. RK&K has developed a QA/QC Manual to fulfill this commitment. This manual is distributed to every employee at RK&K and is reviewed periodically enabling RK&K to continuously update/improve our QA/QC Program.

To provide well-conceived approaches and technically accurate submissions, prepared on schedule and within established budgets, RK&K employs a Total Quality Management (TQM) approach. Implementation of this approach is embodied in seven components. These components include:

- Initial development of investigative approaches and concepts by a select team composed of the Project Manager and key staff, with proven capabilities in the required project disciplines.
- Development of an in-house work plan by the Project Manager, which establishes a well-defined work flow process. The plan will address:
 - Standards to be applied
 - Permits required
 - Critical or potential problem areas
 - Identification of long lead items
 - Coordination with other RK&K departments
 - Man-hours and budgets
 - Schedule
- Conducting an in-house project initiation conference with relevant departmental and inter-departmental staff. The importance of communication among all project team members and the necessity of meeting the requirements of "internal" and "external" clients are stressed.
- The QA/QC Review Committee, comprised of senior technical personnel who are not involved in the day-to-day project efforts, will be convened at the initiation of the project and will continue to meet through the report and contract document preparation phases.
- The Project Manager will have direct project involvement and will monitor conformance to the requirements established by the work plan. Project monitoring will include adherence to continuous checking procedures, documentation requirements, and progress reporting as well as overall quality control.
- Final quality control checks by the Project Manager, Task Managers and QA/QC Review Committee will be provided prior to each submission.
- Prior to plan submission, RK&K's construction management professionals will conduct a constructability review, if applicable; to identify potential problems that could lead to construction-related difficulties and associated remedies.

COST CONTROL

RK&K maintains a cost accounting system (MIS system) that is capable of segregating and identifying accumulating costs for each task performed under Cost-Type projects. The Project Manager will carefully monitor budgets on a weekly basis. RK&K's MIS system allows managerial staff to monitor progress versus budget, which aids in the identification of potential problem areas and allows the implementation of appropriate remedial actions early enough in the project to ensure that tasks are completed within budget. RK&K's automated MIS system provides our project management team with a report that includes a breakdown of man-hours and payroll by individual tasks for "budget", "actual payroll used", "available to complete", and the budgeted and actual hourly payroll rates. This system also provides a list of employees who worked on each project task and the hours each employee charged during the weekly report period. This report, which is available within three days after the end of the weekly report period, permits managers to monitor a project's status quickly and efficiently from the manager's own workstation.

KEY TEAM LEADERS ARE PROFESSIONAL ENGINEERS LICENSED IN THE STATE OF WEST VIRGINIA

Work on this project will be managed from RK&K's Keyser, WV branch office by professional engineers licensed by the State of West Virginia. The Keyser office includes a staff of 29 engineers, technicians, inspectors and surveyors, all of whom are available for work on this project and are highly qualified and experienced in their respective fields. The Keyser office is managed by David G. Vanscoy, PE, a licensed engineer and surveyor in the State of West Virginia with over 43 years of experience.

WEST VIRGINIA BOARD OF PROFESSIONAL ENGINEERS CERTIFICATE OF AUTHORIZATION

RK&K is certified by the West Virginia Board of Professional Engineers. A copy of RK&K's Certificate of Authorization from the West Virginia Board of Professional Engineers is included on page 1-13.

WEST VIRGINIA BOARD OF PROFESSIONAL SURVEYORS CERTIFICATE OF AUTHORIZATION

RK&K is certified by the West Virginia Board of Professional Surveyors. A copy of RK&K's Certificate of Authorization from WV Board of Professional Surveyors is included on Page 1-14.

TECHNICAL QUALIFICATIONS

RK&K has achieved great success in water, sanitary/wastewater, and environmental engineering since entering the field in 1946. During this time, RK&K has completed numerous projects to total client satisfaction. RK&K's engineering experience covers the full spectrum of services, including evaluation, planning, design, and construction management as documented over the past five decades with numerous projects having been placed into successful operation. The projects included new construction, rehabilitation, upgrading and expansion of system infrastructure. RK&K has also been involved in numerous studies to evaluate the adequacy and condition of existing facilities and to develop and evaluate alternatives for new facilities best meeting the current and future needs of our clients. RK&K is vendor-independent, we will evaluate options based on the client's specific needs to ensure the best system is selected.

The following paragraphs will further demonstrate RK&K's water experience:

WATER SYSTEM STUDIES

RK&K has provided strategic planning services to a number of clients to assist them in providing services to their customers. The scope of these services has literally ranged from "source to tap" and has included evaluation of raw water supplies, evaluation of raw water intake and pumping facilities, evaluation of treatment processes, evaluation of finished water pumping alternatives, and evaluation of distribution system and storage requirements. These studies often have evaluated the condition and adequacy of existing facilities to meet clients' needs, both in the short term and the long term. RK&K uses the software package CYBERNET (a.k.a. WATERCAD) by Haestad Methods to perform computer simulations and hydraulic modeling of water systems for both normal usage and fire demand conditions. Pilot testing and computer modeling have been used in a number of projects to best evaluate a variety of conditions. Additional services provided have included treatment system troubleshooting, water chemistry analysis and operator training.

WATER PUMPING FACILITIES

RK&K's experience in water pumping facility design has included horizontal split-case pumping facilities of single- and double-stage design with side and bottom suction configuration ranging up to

100-mgd in capacity, vertical turbine pumping facilities with both deep- and short-column settings, enclosed tube and open-shaft design, above- and below-floor discharge, and multiple stages ranging up to nearly 50-mgd in capacity; vertical turbine booster pumps in enclosed "can" configurations with an aggregate station capacity of up to approximately 5-mgd; and submersible well pumps in various configurations. These facilities have been designed for constant speed units of varying stepped capacities and for variable speed units of identical size. Controls have included local manual on/off, telemetered remote manual on/off, and automatic on/off in response to ambient system pressures and/or elevated tank levels, with emergency pump-off override controls in response to low suction pressure, high discharge pressure, high bearing temperature or vibration level, motor over current, and other salient parameters. Water hammer transients have been managed and attenuated through delayed opening/closure, cone or pump check valves, surge tanks, pressure relief valves, or combinations of these devices.

WATER TREATMENT PLANTS

RK&K's experience in water treatment plant experience has included the evaluation and design of new facilities as well as the rehabilitation, upgrade and expansion of existing treatment facilities ranging in size from small package plants to the 318-mgd Montebello Filtration Plant in Baltimore, Maryland. We have provided planning, regulatory analyses, vulnerability analysis, water quality analysis, design services, bid document preparation, cost estimating, permitting and funding assistance, troubleshooting, and/or operational assistance for numerous types of water treatment processes including:

- Disinfection systems including chlorine, chloramines, on-site hypochlorite generation, ozonation, U.V. disinfection, and contact basins
- Coagulation/Flocculation/Sedimentation (including "high-rate" processes such as plate settlers and solids contact units)
- Dissolved air flotation
- Filtration systems including mono media, dual media, and multi-media filters and including buildings, structures, media, backwash systems, filter controls, piping, valving and miscellaneous appurtenances
- Ozone/Biofiltration including ozone contactors, generation equipment and destruction equipment
- Activated carbon for taste and odor control
- pH adjustment and corrosion control technologies
- Chemical feed systems (primary coagulants, polymers, oxidants, fluoride)
- Residuals processing and disposal
- Laboratory facilities
- Storage, pumping, and conveyance systems
- Miscellaneous electrical, SCADA and HVAC systems

WATER TRANSMISSION MAINS

RK&K's specialized experience in water distribution and transmission spans over a half-century during which time numerous projects have been planned, designed, and placed into successful operation.

RK&K's specific experience relative to the study and design water transmission mains include:

- Provision of varied pipeline alignment studies and designs for small (<30" diameter) and large (>30"diameter) water transmission mains; complete municipal distribution systems (4-12" diameter); discrete high-pressure fire-fighting loops; and utility relocations performed in conjunction with major highway, rail, pier facility, and urban renewal projects.
- Study and/or design of water mains ranging to 108 inches, working pressures in the range of 50 to 250 psi, and lengths from 1,000 to 50,000 linear feet.
- Use of such construction materials as prestressed concrete cylinder pipe (PCCP), steel pipe, ductile iron pipe (DIP), reinforced concrete pipe (RCP), polyvinyl chloride (PVC) pipe and high-density polyethylene (HDPE) pipe.
- Familiarity with various pipeline environments including conventional trenches with pile, bent, cradle, or indigenous material foundations; subaqueous crossings; bridge suspensions; tunnels; construction within agency and railroad rights-of-way; and construction in contaminated areas.
- Familiarity with design of new and/or relocated water mains through both newly-developed and redeveloped areas in the mid-Atlantic region.
- Experienced in the application of hydraulic network analysis computer modeling including KYPIPE and CYBERNET. Ability to analyze and model dynamic mode and extended period simulation water distribution system hydraulics.
- Experienced in the design of pipe thrust restraint methods including pipe restrained joint systems, concrete buttress and blocking and combinations of these methods. Familiarity with issues of water main service continuity and problems with pressure pipe harnessing/buttrresses in areas of proximate active excavation.
- Use of corrosion control methods for water mains, force mains, and gas mains including adjustable impressed current and passive sacrificial anode cathodic protection systems as well as polyethylene wrap protection and multi-layered pipeline coating system.
- Successful performance of public relations and community outreach programs. Experience with construction phase engineering and resident inspection services during construction of water mains ranging up to 96-inches in diameter.

WATER STORAGE FACILITIES

RK&K's specialized experience with water storage facilities includes the design of elevated steel and ground-level storage facilities, the design of prestressed-precast concrete storage facilities, the rehabilitation design of reinforced concrete storage facilities, and the design of foundations required to support these facilities. The sizes have ranged from 0.1- to 29.0 MG. A number of these storage facilities have required that specific consideration be given to siting aesthetics because of their proximity to residential areas and special construction measures due to archeological and historical concerns. Capacities of many of these facilities have been confirmed by computer modeling. RK&K has participated in several public relations/participation programs and assisted the client in public presentations by preparing informative and innovative visual aids.

WATER SYSTEM OPERATION AND MAINTENANCE START UP SERVICES

RK&K's experience with operation and maintenance associated with water facilities includes a wide range of capabilities and services. These consist of training of client staff and operators; preparation

of detailed O&M manuals and standard operating procedures; plant evaluation, performance testing, and troubleshooting; and facility startup. RK&K is an innovator in the design and delivery of customized training programs for O&M personnel. Training programs are often developed to address client-specific concerns for facilities already in operation. RK&K has developed comprehensive SOPs, standard maintenance procedures, operator pocket guides, emergency response plans, operating placards, and other information for plant personnel. In addition, RK&K provides recommendations resulting in improved plant performance, energy and chemical system optimization, structural integrity and design life, and equipment operation and reliability. Regarding inventory management and control for municipal water, wastewater and stormwater facilities, RK&K often institutes as part of the O&M manual or standard operating procedures, a facility-specific protocol for managing spare parts inventories, lubricants, and equipment-specific tools. These protocols are usually developed in conjunction with the client's operation and maintenance staff and can range from a three-ring binder containing the inventory listing, parts, identification numbers, and vendor codes to a complete computer database installed on a networked hardware system with terminals accessible at various system facilities.

GENERAL SERVICES

- **Environmental Assessments**

The RK&K Team includes individuals experienced in identifying jurisdictional waters of the U.S., including the vegetation, soils, and hydrology for wetland delineations. Several of our key and support staff are U.S. Army Corps of Engineers' (COE) certified wetland delineators and/or professional wetland scientists. RK&K has the ability to assess functions and values of affected wetlands using techniques such as the Hollands Magee method, Soil Conservation Service Method, Hydrogeomorphic Classification method (HGM) Rapid Assessment Procedure (Magee Hollands Method) or other accepted methods.

RK&K has conducted several hundred wetland delineations and numerous functional assessments throughout the Mid Atlantic regions. Wetland delineations are performed in accordance with the 1987 COE Manual and have been approved by, and jurisdictional determinations have been obtained from, various COE districts, including Baltimore and Norfolk.

RK&K includes professionals skilled in delineating and documenting stream conditions (physical and biological), submerged aquatic vegetation habitat, and water quality conditions. RK&K has experience using a variety of methodologies for characterizing stream conditions including Rosgen Stream Classification, U.S.D.A.'s Stream Visual Assessment Protocol and EPA's Rapid Bioassessment Protocols. In addition, a member of our team developed a stream classification methodology for use by the Chesapeake Bay Local Assistance Department to classify perennial versus intermittent streams.

RK&K also has extensive experience in preparing ecological technical reports. These reports include biological assessments prepared in compliance with the Endangered Species Act. For the Woodrow Wilson Bridge Replacement project, we prepared biological assessments for the Hay's Spring Amphipod and assisted in field surveys for the Bald Eagle. Other technical reports routinely prepared include: environmental impact statements; environmental assessments; wetland delineations and identification reports; natural resource inventories; cultural resource inventories; Phase I & II hazardous material investigation; forest stand

delineations' avoidance and minimization report; mitigation site selection report; hydrologic and hydraulic studies; and geotechnical investigations.

- **Structural Engineering**

RK&K's structural engineering resources offer experienced engineers capable of providing the services required for this project. RK&K's structural engineering staff is well qualified in performing all phases of work, commencing with concept and feasibility studies through final design and construction phase services. With an extensive background in municipal and transportation facility projects, examples of structural services which have been performed by RK&K engineers include well houses, treatment plants, pumping stations, storage tanks, utility tunnels and vaults, retaining walls, vehicular tunnels, drainage structures, bridges, noise barriers, sign structures, maintenance shops, operations facilities, administration buildings, truck wash facilities, fuel handling facilities, chemical storage facilities and tourism welcome centers.

- **Mechanical Engineering**

RK&K's mechanical design experience includes HVAC, dehumidification, piping, flow monitoring and valving systems for water and wastewater treatment plants and pumping stations; compressed air and odor control systems for treatment plants and pumping stations; and plumbing systems for various facilities. Automatic temperature and ventilation controls are designed in accordance with accepted code requirements for air change frequency, and to maintain the comfort of operations and maintenance personnel.

- **Electrical Engineering**

RK&K has the in-house capabilities to design all types of electrical power distribution and control systems for municipal, industrial and transportation type construction contracts. We have provided complete design and construction phase services for various types of facilities throughout the mid-Atlantic region. These facilities include water and wastewater treatment plants, pumping stations, well houses, natural gas regulating stations, roadway lighting systems, mass transit facilities and several specialized military facilities.

Designs have included low and medium voltage switchgear, complete power distribution systems, motor control centers, pump controls, HVAC controls, standby emergency power generator systems, SCADA systems and lighting systems of all types. RK&K utilizes the latest in computer aided design tools for power and lighting systems.

- **Geotechnical Services**

RK&K has a fully equipped and staffed geotechnical laboratory which allows performance of a broad scope of soil and groundwater tests. The RK&K geotechnical engineering department has been involved in the field investigations, laboratory testing, analyses, and geotechnical report preparation for various municipal engineering facilities in excess of 30 years. During this period, numerous treatment plants, pumping stations, solid waste disposal facilities, earth and rock fill dams, levees, floodwalls, lagoons, water supply wells and water supply reservoir projects have been investigated and final designs prepared. In addition, remedial measures and upgrades of existing facilities have been analyzed and geotechnical input provided for final design. For essentially all of these projects, test borings and observation wells have established soil, rock, and groundwater conditions at the site which, when used in conjunction with laboratory test results where required, has resulted in

the most practical foundation system or rehabilitation measures for the project.

- **Instrumentation/Control and SCADA Systems**

RK&K has extensive experience in the evaluation and design of instrumentation and control systems of all types. RK&K has designed numerous water facilities based on level control and pressure control for single and multi-pump applications ranging from a few horsepower to several hundred horsepower. Control systems utilized have included pre-engineered relay based systems, custom designed relay based systems, pre-engineered digital control systems, and custom designed systems using programmable logic controllers (PLCs). In each case, the control systems have been intergraded with the necessary alarm, telemetry and SCADA functions required for the application. Many of the systems designed have included the use of variable frequency drives to control pump speed, including customized multi step speed controls to limit piping fluid velocities under specific operating conditions. In most cases, designs have included some level of back up control, ranging from redundant level/pressure sensing equipment, to full back up secondary controls providing automatic operating in the event of primary control failure. Other functions implemented in the design of pump control systems have been automatic valve timing/sequencing, seal water systems, automatic pump alternation, pump lockout circuitry, motor thermal monitoring and vibration monitoring. RK&K's involvement in the design of pumping control systems is often extended into the construction phase of a project, providing troubleshooting and start up services to aid in the implementation of designs.

- **Operation and Maintenance and Start-up Services**

RK&K's experience with operation and maintenance associated with water facilities includes a wide range of capabilities and services. These consist of training of client staff and operators; preparation of detailed O&M manuals and standard operating procedures; plant evaluation, performance testing, and troubleshooting; and facility startup. RK&K is an innovator in the design and delivery of customized training programs for O&M personnel. Training programs are often developed to address client specific concerns for facilities already in operation. RK&K has developed comprehensive SOPs, standard maintenance procedures, operator pocket guides, emergency response plans, operating placards, and other information for plant personnel. In addition, RK&K provides recommendations resulting in improved plant performance, energy and chemical system optimization, structural integrity and design life, and equipment operation and reliability. Regarding inventory management and control for municipal water, wastewater and stormwater facilities, RK&K often institutes as part of the O&M manual or standard operating procedures, a facility specific protocol for managing spare parts inventories, lubricants, and equipment specific tools. These protocols are usually developed in conjunction with the client's operation and maintenance staff and can range from a three ring binder containing the inventory listing, parts, identification numbers, and vendor codes to a complete computer database installed on a networked hardware system with terminals accessible at various system facilities.

- **Construction Inspection / Management Experience**

RK&K's construction department has been providing construction phase services for nearly 40 years involving hundreds of public works' projects with aggregate construction costs in the billions of dollars. Projects include roadways, bridges, transit tunnels, subways, hydroelectric plants, marine facilities, water and wastewater treatment plants, water and sewer infrastructure, pumping stations, stormwater management and flood control facilities plus a variety of building projects. Many of our projects involve a full range of construction management/administration and inspection services from design, preconstruction, construction and post-construction phase, including materials testing, tests and start-up, claims resolution, CPM scheduling, and contract close-out. RK&K's construction engineering and inspection services involve public works, capital improvements, transportation and/or development projects including: water and sewer infrastructure, pumping stations, intake lines, transmission mains, force mains, water/wastewater plant upgrades; and various building projects involving new structures, rehabilitation, mechanical/electrical modifications and upgrades, and other improvements.

RK&K has over 167 construction engineering/inspection personnel of varying levels of expertise. RK&K employees are knowledgeable about traditional as well as state-of-the art construction inspection practices and procedures, materials testing techniques, and are proficient in the use of computers. Many of the staff are NICET-certified, Troxler nuclear gauge trained, hold state erosion and sediment control certifications, are certified or approved by client's materials laboratories, and have solid backgrounds and expertise in field surveying and construction layout.

- **Cost Estimations**

RK&K's cost control plan focuses on both our internal cost and assignment schedule and the construction cost of the facilities being designed. RK&K maintains a monthly routine of monitoring and updating project costs. RK&K's management information system provides timely reports so that project/task managers continuously monitor the budget standpoint on a real time basis.

As a quality management technique, RK&K prepares construction cost estimates by hand in addition to using an automated cost estimating system. The owner is notified immediately when a condition/circumstance exists that affects the budget of the project. This approach has proven very effective with construction bids consistently within 5% of the cost estimate for contracts for \$1,000,000 or less and within 3% for contracts greater than \$5,000,000. Construction change orders have been consistently within 2% of construction cost.

SUMMARY

In the preceding paragraphs, RK&K's qualifications in aspects of water design have been presented. In the remainder of this Expression of Interest, specific requirements of the Division of Natural Resources will be discussed, and how RK&K's expertise can best be utilized to provide the required engineering services for Greenbrier State Forest Water System Improvement Project.

CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers
having verified the person in responsible charge is registered in
West Virginia as a professional engineer for the noted firm, hereby certifies*

**RK&K ENGINEERS, LLP
C01505-00**

Engineer in Responsible Charge: MICHAEL MYERS - WV PE 018055

*has complied with section §30-13-17 of the West Virginia Code governing
the issuance of a Certificate of Authorization. The Board hereby notifies you of its
certification with issuance of this Certification of Authorization for the period of:*

July 1, 2015 - December 31, 2015

providing for the practice of engineering services in the State of West Virginia.

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA
UNDER ITS SEAL, AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT



WEST VIRGINIA
BOARD OF PROFESSIONAL SURVEYORS
Certificate of Authorization

2015

ISSUED TO:

RUMMEL, KLEPPER & KAHL, LLP
Keyser, West Virginia

CERTIFICATE OF AUTHORIZATION No. **15-5554**

This certificate is issued by the West Virginia Board of Professional Surveyors in accordance with *West Virginia Code § 30-13A-20*
The person or organization identified on this certificate is licensed to conduct professional surveying and mapping services
in the State of West Virginia for the period

January 1, 2015 through December 31, 2015

This certificate is not transferrable and must be displayed at the office location for which issued.

In witness whereof I have put my hand, this 20th day of November, 2014

ROY E. SHREWSBURY, II, Chairman



MARK H. HORNISH



R. MICHAEL SHEPP

NELSON B. DOUGLASS, Secretary

ANTHONY J. SPARACINO

**West Virginia
Division of Natural Resources
Park and Recreation Division**

**Greenbrier Forest State Park
Water System Improvements**

SECTION 2

SECTION 2



Staff Qualifications and Experience



Responsive People • Creative Solutions

PROJECT TEAM

RK&K has carefully selected a project team consisting of personnel with extensive water and wastewater system evaluation and design experience for services required for Greenbrier State Forest Water System Project. These individuals were selected on the basis of their past experience with similar projects, familiarity with the project area, and availability to devote required time to work on the projects.

RK&K's Team is service-oriented and committed to responding to the DNR's project goals and needs. RK&K's Team will provide:

- **Immediate availability**
- **Exceptional relevant experience and knowledge**
- **Extensive relevant evaluation, design, permitting, bidding and construction phase capabilities**
- **Effective working relationships with regulatory and permitting agencies**
- **Proven stakeholder coordination expertise**
- **Efficient solutions**
- **Beneficial constructability reviews**
- **Well thought-out Maintenance of Operations Plans**
- **The ability to respond to the needs of the DNR's staff at a moment's notice**
- **A proven track record of exceptional service to prior clients.**

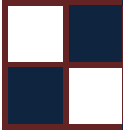
The vast experience of the RK&K Team will be an important asset to the Division of Natural Resources in addressing this project located in Greenbrier State Forest.

This project will be managed from RK&K's Keyser, WV office. John W. Cole, PE, Project Manager has the ability to reach throughout the firm to provide the most appropriate team members for any work required for these projects. RK&K works in a seamless environment allowing coordination with personnel located within all of RK&K offices.

At the heart of RK&K's success is the high value placed on teamwork and collaboration. Teamwork is important to RK&K's partners and senior leadership and is reflected in the operation of the firm, our projects, and our culture. RK&K functions seamlessly as a single unit, allowing our Keyser-based Team to utilize highly qualified experts throughout RK&K to provide superior expertise and timely service.

The RK&K Team has a wealth of experience and knowledge in their respective fields. The Team's expansive experience provides leadership, management, technical and engineering skills required for the comprehensive evaluation of project alternatives and successful implementation of selected options. The RK&K Team, as depicted in the following organization chart, was developed to best serve the Division of Natural Resources in meeting the goals established for these projects. Each Team member provides outstanding technical know-how, personal service, and most importantly, a commitment to achieving goals. RK&K is focused on delivering the highest quality and most responsive service to the Division of Natural Resources. RK&K's success will be measured by the success of these important projects.

***Division of Natural Resources
Greenbrier State Forest
Water system Improvement***



KEY TEAM MEMBERS

Key team members are professional engineers who have the proven ability to lead and undertake the responsibilities needed to achieve the project goals.

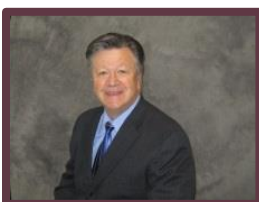


Michael W. Myers, PE, Partner, has more than 30 years of municipal engineering experience and will serve as Partner-in-Charge. A former officer in the US Army, Mr. Myers is responsible for RK&K’s water, wastewater and stormwater practice firmwide. Since joining RK&K in 1990, Mr. Myers has served as a designer, project engineer, associate and partner and has been involved in many technically diverse planning, study and design projects. Mr. Myers will have overall responsibility for this contract and will ensure that adequate resources are made available to the Project Manager and Team. As the **Principal-in-Charge** of the projects, Mr. Myers, has ultimate responsibility for completion of the assigned work. His focus will be on technical direction, quality, budget and schedule. He will be responsible for ensuring adequate staff and other resources are available for the Team. Additionally, he will address contractual issues, such as negotiating the scope of work and price proposal associated with the task orders assigned.



Mr. **David G. Vanscoy, PE, PS**, as **QA/QC Manager** will supervise and oversee the administrative and technical aspects of the projects. Being born and educated in the State of West Virginia, Mr. Vanscoy has a very strong bond and sense of responsibility to the communities and State of West Virginia. His career started as a summer intern for the West Virginia Department of Highways in 1966. In 1987, Mr. Vanscoy started his own firm in Keyser, West Virginia, where he also served as the City Engineer on a consultant basis. In June 1999, Mr. Vanscoy joined RK&K as the regional manager in charge of our Keyser, WV office as associate. He now serves as Director of Municipal Engineering in West Virginia. Dave has over 43 years of engineering and project management experience including water system projects for large and small clients throughout the region. He will be routinely in contact with the District to avoid and resolve potential problems, ensuring the progress of the work, and verifying the client’s needs are met.

Mr. **John W. Cole, PE** will serve as **Project Manager**. Mr. Cole has over 14 years of experience with water and sewer system projects very similar to what West Virginia DNR has advertised. Mr. Cole joined RK&K following graduation from Fairmont State College in 2001. Mr. Cole will be the day-to-day, primary point of contact with the Division of Natural Resources. A registered professional engineer in West Virginia and Maryland, John will work closely with key team members on the overall evaluation and design of the various project components to ensure that milestones are met. Mr. Cole’s current on-call work with the City of Charles Town, Charles Town Utility Board is a good example of similar work. In addition to design and construction experience, Mr. Cole is experienced in all facets of engineering projects from conception to completion including but not limited to planning, permitting, and funding.



Larry W. McDowell, PE, PS will serve as **Construction Engineer**, responsible for construction management and inspection on the project. Mr. McDowell joined RK&K’s Keyser, WV office in December of 1999 as Project Engineer. Mr. McDowell has over 43 years of diverse engineering experience associated with all aspects of the construction of water and sewer system projects. Since joining RK&K, Larry

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Greenbrier State Forest
Water system Improvement*



has managed the construction of many projects, most recently Frankfort Public Service District's Wiley Ford Water Project and Frankfort Public Service District's Regional Sewer Project.

RK&K has organized the project team in a manner to best address the types of tasks anticipated under this project, in quick response, with the ability to handle multiple, concurrent assignments of any variety or size. Resumes of each key staff member are provided on the following pages.

MICHAEL W. MYERS, PE**Partner****Assignment: Partner-in-Charge****Years of Experience: 30****Education:** BS/Civil Engineering/1985
MA/Management/1989**Registration:** PE/1992/Civil Engineering**Relevant Experience**

Formerly a Captain with the U.S. Army's Environmental Hygiene Agency, Mr. Myers has extensive experience with public water and wastewater systems. Since joining RK&K in 1990, Mr. Myers has been involved in the management of many technically diverse water infrastructure planning, study, and design projects. Mr. Myers serves as RK&K's principal-in-charge of RK&K's water infrastructure throughout the mid-Atlantic region. He has successfully served BCPWSD on several important projects. Examples of his related experience includes:

Potomac River Intake and Pumping Station, Berkeley County, WV: Partner-in-Charge for design and construction engineering for a new submerged river intake and 6 MGD (expandable to 12 MGD) raw water pumping station. ACEC-award winning project involved significant permitting, design and construction challenges, including 60-foot excavation depth in a steep hillside, 40-foot fluctuation between normal river water level and 100-year flood elevation, portions of project located in two different states, and the need to keep existing facilities operational and in service while the new facilities were being constructed. Conducted feasibility studies to evaluate and select the optimum location for the new intake structure and pumping station. Tunneling and jacking was used for the installation of two 51-inch steel casing pipes, which house two 30-inch intake carrier pipes and intake screen cleaning air pipes. The intake structure was constructed using a cofferdam and temporary causeway. The new pumping station is equipped with two multi-stage vertical turbine pumps with a capacity of 3.0 MGD each.

Berkeley County Public Service Water District Water Audit, Berkeley County, WV: Provided quality control and technical oversight for a water system audit of BCPSWD's Northern Service Area. The purpose of the project was to identify sources of real and apparent water losses which were creating persistently high levels of non-revenue water in the Northern Service Area. The project ultimately led to the reduction of non-revenue water to acceptable levels.

County-wide Radio Telemetry System, Berkeley County, West Virginia: Partner-in-Charge of the design and construction phase services of a countywide radio telemetry system for the Berkeley County water facilities, consisting of 12 water tanks, four pump stations, and three water treatment plants. Design included Control Microsystems SCADAPack RTUs, spread spectrum radios, and SCADA software.

Belair Road Transmission Main, Baltimore, MD: Project Manager for alignment study, design and construction for 9,500 LF of 24-inch water main located along Belair Road between Whitemarsh Boulevard and Ebenezer Road. The main has been designed for both DIP with sacrificial anodic cathodic protection system and PCCP bid alternatives and includes four interconnections with the existing distribution system. The project also includes the cleaning/relining of an existing 12-inch water main.

New Design Water Treatment Plant, Frederick, MD: Partner-in-Charge responsible for providing quality control and ensuring top performance of the RK&K Team for the planning, design, bidding, and construction phase services to upgrade and expand their existing facilities from a capacity of 5.4 million gallons per day (MGD) to a design capacity of 25 MGD.

Mount Airy Capital Improvements Water Distribution, Town of Mount Airy, MD: RK&K was chosen to serve as the Town's primary consulting engineering firm. In addition to RK&K's engineering expertise and experience in water and wastewater engineering, the town was very interested in establishing water distribution system GIS mapping and field maps similar to those currently being used in the nearby town of Walkersville, Maryland, which RK&K created several years ago.

*Division of Natural Resources
Greenbrier State Forest
Water system Improvement*



West Virginia State Board of Registration for Professional Engineers

MICHAEL W. MYERS
WV PE [REDACTED]

This is to certify that the above named PROFESSIONAL ENGINEER has met the requirements of the law, is duly registered and is entitled to practice engineering in the State of West Virginia.

EXPIRES December 31, 2016

DAVID G. VANSCOY, PE, PS*Director, Municipal and Transportation Engineering***Assignment:** Quality Assurance/Quality Control Manager**Years of Experience:** 43**Education:** MS/Structural Engineering/1972

BS/Civil Engineering/1970

Registration: PE/1974/Civil Engineering

PS/1975/Professional Surveyor

**Relevant Experience**

Mr. Vanscoy has over 43 years of experience in public works projects. In 1987, Mr. Vanscoy started his own firm in Keyser, West Virginia, and served as City Engineer on a consultant basis. Mr. Vanscoy has diverse experience in design of water systems and facilities as well as construction management. In June 1999, Mr. Vanscoy joined RK&K as the regional manager in charge of the Keyser, West Virginia office and was later promoted to director. Relevant experience includes:

Frankfort Public Service District, Wiley Ford Water System, Mineral County WV: Project Manager for replacement of approximately 55,400 LF of water main to improve the service and quality of water. The project also included a new 300,000 water tank and booster station to provide improved water pressure and supply. The second phase of this project will be locating a suitable well(s) source.

Thayerville Water System, Garrett County, MD: Project Manager responsible for the design of a 600 gpm water treatment facility, a 1 MG & a 165,000 gallon water storage tanks, a 110 gpm & a 50 gpm remote booster stations, and distribution system consisting of various lengths of 2" through 12" dia. pipe.

Grant County Public Service District, Petersburg, WV: Project Manager on construction of 297,000 gal. Maysville water storage tank, Points pump station upgrade, relocation of 5,700 LF of water main line on U.S. Route 220 South. Project commenced in April of 2008, with substantial completion achieved on schedule in September 2008. Additional radio telemetry completed with available contingency funds due to completion of work within budget.

New Creek Water Association, New Creek, WV: Project Manager for evaluation of existing system. Project manager for design and construction of 140,000 gallon storage tank; 350,000 gallon storage tank; 30,000 gallon storage tank; new booster station; upgrade booster pumping stations; addition of fire hydrants to system; drilling of well.

Charles Town Utility Board On-Call Water & Sewer Projects, Charles Town, WV: Project Manager responsible for overseeing design and construction of various water and sewer on-call projects. Projects range from the design of new sewage lift stations, modifications to an existing sewage lift station, design of over 20,000 LF of sewage force mains, to overseeing painting of two elevated water storage tanks and water treatment plant.

Town of Lonaconing, Maryland, New Water Distribution System: Project Manager for the design and construction of over 40,000 LF of water line replacement, touch read and radio read water meters to existing system through multiple projects in various phases.

Frankfort Public Service District, Water System Evaluation, Mineral County, WV: Project Manager for an extensive evaluation of the Frankfort PSD water system including the original Fort Ashby PSD system. Study involved a source to tap evaluation. Over \$12 million worth of improvements were identified in the study. At this time RK&K is assisting in securing funding.

Northern Mineral County Regional Sewer System Project, Frankfort Public Service District, Mineral County, WV: Project Manager for the design, construction and inspection of this \$39 million regional sewer system project which includes over 64 miles of sewer collection; 15 pump stations and a new 1.20 MGD wastewater treatment plant including biological nutrient removal.



West Virginia State Board of Registration for Professional Engineers

DAVID G. VANSCOY
WV PE [REDACTED]

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EXPIRES December 31, 2016

JOHN W. COLE, PE**Project Manager****Assignment:** Project Manager**Years of Experience:** 14**Education:** BS/Civil Engineering/2001**Registration:** PE/2008/Civil Engineering**Relevant Experience**

Mr. Cole is an engineer in the Keyser Office with over 14 years of design experience in public and private works projects. His career started as a summer interim for the West Virginia Department of Highways in 2000. Since joining RK&K in 2001, Mr. Cole has developed a diverse experience in design of water and wastewater treatment plants, distribution and collection systems, residential subdivision development as well as construction management. In addition to design and construction experience, Mr. Cole is experienced in all facets of engineering projects from conception to completion including but not limited to planning, permitting, and funding. Relevant experience includes:

Charles Town Utility Board On-Call Water & Sewer Projects, Charles Town, WV: Project Manager responsible for overseeing design and construction phase services for various water and sewer on-call projects. What started in 2009 with Task 1 for overseeing the painting of a water storage tank (\$17k fee) has evolved in 2015 to numerous tasks and sub-task totaling more than \$2.95M in fees. Through the 18 individual Tasks, not counting the various sub-Tasks, the various water and sewer projects have ranged from the design and construction of new sewage lift stations; modifications to existing sewage lift stations; over 10 miles of water mains and sewage force mains; improvements to two of the Utility's three WWTP's; improvements to the single WTP including a 1 MG water storage tank; preparation of numerous preliminary engineering reports, evaluations, studies, and plans; construction of three emergency back-up generators; to overseeing painting of several elevated water storage tanks and water treatment plant. In addition to the basic water and sewer work, other work for the Utility has included, the creation of a wetland to meet a consent order; development of both a water and sewer system wide SCADA; expert witness; reviewing contractor's certified payrolls adhering to Davis-Bacon; and developing project funding strategies.

Wiley Ford Water System, Mineral County WV: Developed the hydraulic model on the replacement of the approximately 55,400 LF of water mains to improve the service and quality of water; assisted in the permitting applications and construction funding; construction of a new 300,000 water tank and booster station to provide improved water pressure and supply; development of well source to supplement the existing water connection.

Northern Mineral County Regional Sewer System Project, Frankfort Public Service District, Mineral County, WV: Project Engineer assisting with design of this \$39 million regional sewer system project which includes over 64 miles of sewer collection; 15 pump stations and a new 1.20 MGD wastewater treatment plant including biological nutrient removal.

Garrett County Department of Public Utilities, Thayerville Water System, Garrett County, MD: Senior Project Engineer responsible for the design of a 600 gpm water treatment facility, a 1 MG & a 165,000 gallon water storage tanks, a 110 gpm & a 50 gpm remote booster stations, and approximately 41,000 LF of distribution system consisting of various lengths of 2" through 12" dia. pipe.

New Creek Water Association – Construction Contract 3, New Creek, WV: Responsible for overseeing contractor during the cleaning, rehabilitation, and painting of a 100,000 gallon and 50,000 gallon water storage tanks.

LaVale Sanitary Commission, LaVale, MD: assisted in the design and construction of replacement of distribution mainline and services.

New Creek Water Association – Construction Contract 1 & 2, New Creek, WV: Assisted in the design and construction of approximately 5-miles of water line extension and the addition of fire hydrants to existing system.

*Division of Natural Resources
Greenbrier State Forest
Water system Improvement*



West Virginia State Board of Registration for Professional Engineers

JOHN W. COLE
WV PE # [REDACTED]

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EXPIRES December 31, 2016

ROBERT A. AMTOWER, PE, PS

Project Manager

Assignment: Environmental Permitting

Years of Experience: 14

Education: MS/Civil Engineering/1976
BS/Civil Engineering/1974

Registration: PE/1979/Civil Engineering
PS/Professional Surveyor/1995



Relevant Experience

Mr. Amtower has 38 years of experience in public transportation projects. Mr. Amtower worked with the WV Division of Highways for over 30 years, where he held various positions including Bridge Evaluation Engineer, District Maintenance Engineer, Director of Engineering, and District Engineer. Mr. Amtower’s duties have included evaluation and load rating of bridges, managing the highway design and maintenance programs, oversight of construction activities, and development of various other programs related to highways. Since 1987, Mr. Amtower has been an active Board of Director Member (currently Treasurer) of the New Creek Water Association seeing the system expand from 500 customers to over 1,300 customers.

VA Water and Sewer Deficiencies, VA Hospital, Martinsburg, WV: Managed the development of sewer and water line replacement as well as renovation of existing manholes and sewer line. Work included 2,200LF new sanitary sewer and manholes; renovation of 1,300LF existing sewer line and manholes; and 1,100LF 10” ductile iron waterline. Developed traffic control plan for complete street network. Coordinated design /construction related issues with the contractor and owner.

New Creek Water Association: Currently serving (25 years) on Board of Directors as a non-paid capacity. Work included monitoring budgets, operating costs, planning, and developing strategies for system; maintenance and growth.

Dan’s Mountain Access Road and Storage Building: Assisted with finalizing the design of a gravel access road as well as site plan and design of small storage building. The access road design included culvert design work, erosion and sediment controls, cost itemization for the project. Also included was development of specifications for various construction items for the storage building.

Keyser McCoolle Bridge: Project Engineer for design of a replacement bridge on US 220 across the Potomac River between Keyser, WV and McCoolle, Md. The design emphasized the relocation design of water and sewer utilities, design of relocated streets, complex storm water discharge network, right of way features, and cost estimating.

WVDOT, Hampshire County Maintenance Facility: Developed a site plan for a new maintenance headquarters complex. The work included development of permanent storm water ponds as well as ditch line infiltration and storm drainage system, and design of utilities. Developed the plan for paving of the parking lots.

WVDOT, Maintenance Engineer: Served 15 years as Maintenance Engineer for a seven county region of the Eastern Panhandle of West Virginia. Most recent work was the development of a site plan that included new water service, sewer relocation, storm after discharge, and siting of two new restroom facilities at welcome centers on Interstate 81 in Berkeley County, West Virginia. Managed the highway entrance permitting program.



West Virginia State Board of Registration for Professional Engineers

ROBERT A. AMTOWER
WV PE [REDACTED]

This is to certify that the above named PROFESSIONAL ENGINEER has met the requirements of the law, is duly registered and is entitled to practice engineering in the State of West Virginia.

EXPIRES December 31, 2016

DANIEL W. TICHINEL, PE

Project Engineer

Assignment: Design

Years of Experience: 5

Education: BS/Civil Engineering/2010

Registration: PE/2015/Civil Engineering



Relevant Experience

Mr. Tichinel joined RK&K as a project engineer in September of 2015. A licensed professional engineer with five years of project engineering and management experience, Mr. Tichinel previously worked as a senior reliability engineer for Verso Corporation in Luke, MD. Relevant experience includes:

Frankfort Public Service District, Water System Upgrade, Contract 4- Pump Station Rehabilitation: Project Engineer responsible for the design upgrade of two existing pump stations. Results include increasing pump station pumping capacities & reducing annual operating energy costs.

Senior Reliability Engineer, Verso Corp. (Formerly New Page), Luke, MD January 2012 – September 2015:

- Project Engineer/Manager for the Lime Kiln Outages to complete maintenance & capital projects. Results include elimination of kiln component failures and completing the outages ahead of schedule and within budget.
- Project Manager during Paper Machine Outages for scheduled maintenance which includes management of contractors or mill union mechanics to perform various reliability projects. Accomplishments include improving fan bearing life from 3 months to at least 2 years and extending the life of a gear-reducer which eliminated maintenance costs of over \$100k.
- Project Engineer/Manager for bulk oil storage tank capital upgrade, resulting in decreasing lube filter usage costs by \$50k annually.
- Project Manager of Paper Machine Dryer Can NDT Inspections to confirm the can's maximum allowable working pressure and repair/replace loose or missing internal parts to avoid a catastrophic failure.
- Continually improving the Mill's Safety Program through participation in safety investigations and ensuring hazard elimination.
- Promoted to Senior Reliability Engineer in May 2013 due to outstanding performance.

Project Engineer, Garrett College, McHenry, MD 2010-Jan. 2012:

- Realigned road resulting in safer sight distance for intersection finishing ahead of schedule and within budget.
- Researched, summarized, and analyzed financial data including operating costs which lead to the reduction of the College's municipal waste contract by \$20k annually.
- Three academic building roof replacements to eliminate roof leaks and improve the aesthetics of campus facilities. Completed project within budget and on time.
- Upgraded the Northern Outreach Center ground floor to comply with ADA & fire code increasing the building's classroom space by more than 3000 sq. ft.

Environmental Feasibility Assistant, Bucknell University, Lewisburg, PA 2008-2010: Lead Engineering Assistant of a four person working team for an externally-sponsored project to investigate the feasibility of anaerobic conversion of municipal wastewater to methane.

***Division of Natural Resources
Greenbrier State Forest
Water system Improvement***



LICENSE * REGISTRATION * CERTIFICATION * PERMIT
STATE OF MARYLAND
DEPARTMENT OF LABOR, LICENSING AND REGULATION

Lawrence J. Hogan, Jr.
Governor
Boyd K. Rutherford
Lt. Governor
Kelly M. Schulz
Secretary

STATE BOARD FOR PROFESSIONAL ENGINEERS

CERTIFIES THAT:

DANIEL W TICHINEL

IS AN AUTHORIZED: 05 - PROFESSIONAL ENGINEER

<u>LIC/REG/CERT</u>	<u>EXPIRATION</u>	<u>EFFECTIVE</u>	<u>CONTROL NO</u>
[REDACTED]	06-07-2017	N/A	[REDACTED]

Daniel W. Tichinel

Signature of Bearer

Kelly M. Schulz

Secretary DLR

BRANDON J. FELTON

Designer

Assignment: Design

Years of Experience: 9

Education: BS/Mechanical Engineering/2006



Relevant Experience

Mr. Felton is a West Virginia University Mechanical Engineering Graduate with over 9 years of experience in public and private works projects. His career started in the water and waste water industry as a maintenance worker for the Frankfort Public Service District in 2003. Since joining RK&K in 2006, Mr. Felton has developed experience in design of equipment pertaining to water and wastewater treatment systems. Relevant experience includes:

Grant County Public Service District Water System Improvements– Points Pump Station: Worked on the design of upgrading the existing Point’s potable water pump station with new 280 GPM vertical multi-stage pumps and all related plumbing, controls, metering, and telemetry.

Frankfort Public Service District – Wiley Ford Water Line Replacement Project: Assisted in the design of a new water treatment facility including a new well and corresponding 90 GPM pump, 297,000 gallon water storage tank, and a chemical injection/control building. Also assisted in the right-of-way acquisition for the corresponding water distribution system.

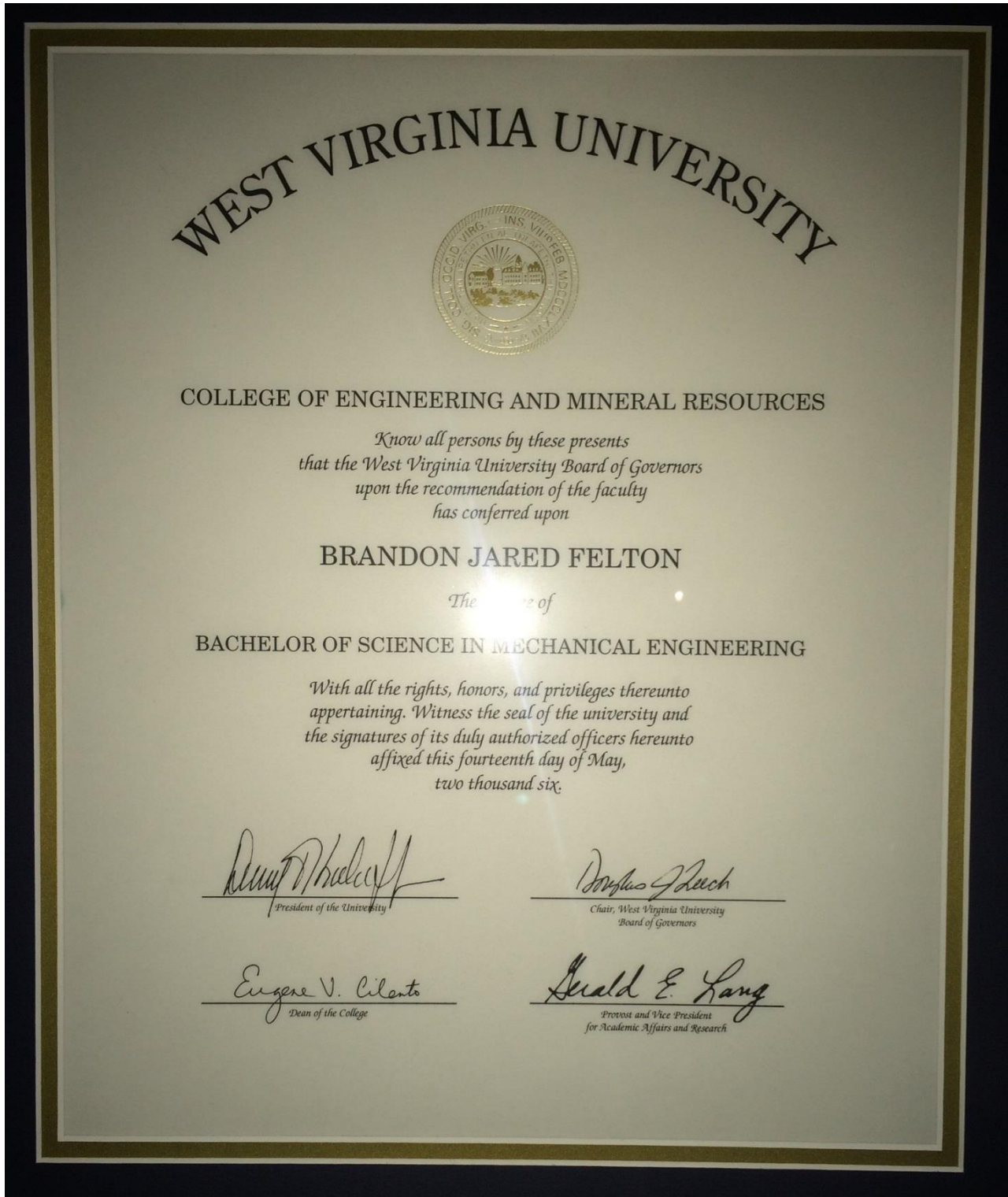
Town of Lonaconing Water Improvement Project – Charlestown Road Water Line Extension: Assisted with design of a new 90 GPM vertical multi-stage water pump station with remote below-ground water storage tank and corresponding distribution system.

Garrett County Department of Public Utilities – Thayerville Water Distribution System Project: Assisted in the design of both a new 100 GPM vertical multi-stage water pump station and a new 300 GPM water treatment plant utilizing vertical turbine pumps.

Frankfort Public Service District - Northern Mineral County Regional Sewer System, Phase 1 & 2: Assisted in the design of a new 0.6 MGD SBR waste water treatment plant with capabilities of future expansion to 1.2 MGD. Design work included various mechanical elements of the plant including plumbing, pumps, blowers, screen/grit removal, and belt press. Also assisted in the design and right-of-way acquisition for the corresponding 9-mile collection system feeding the new WWTP.

Greater Marion Public Service District Sanitary Sewer Improvements – Carolina & Idamay Sewage Pump Stations: Assisted in the design of the 250 GPM Carolina submersible sewer pump station and the 130 GPM Idamay vacuum-prime sewer pump station consisting of two pumps in series to meet high head requirements.

Charles Town Utility Board Water & Sewer Improvements– Huntfield Pump Station & Transfer Pump Station: Assisted in the design of upgrading the existing Huntfield sewer pump station with new 600 GPM submersible sewer pumps and related plumbing and controls. Also assisted in the design of a new 375 GPM submersible sewer pump station used to transfer sewer flow between two separate treatment plants.



ANDREW P. SUTER

Designer

Assignment: Design

Years of Experience: 8

Education: BS/Civil Engineering/2007



Relevant Experience

Mr. Suter is a West Virginia University Civil Engineering Graduate with over 9 years of experience in public and private works projects. His career started as a summer interim for the West Virginia Department of Highways in 2004. In 2006, he joined RK&K as an intern during the summer and in the summer of 2007, began working full time. Relevant experience includes:

Town of Lonaconing Water Improvement Project – Water Meter Replacement: Responsible for field locating existing meters, as well as coordinating with local PSD to verify which meters were full replacements and partial replacements.

Frankfort Public Service District - Northern Mineral County Regional Sewer System, Phase 1: Assisted in the design and layout of treatment plant. Assisted in several building design layouts and yard piping line work throughout the plant.

Frankfort Public Service District – Northern Mineral County Regional Sewer System, Phase 2: Assisted with sewer line layout through northern end of Mineral County. Assisted in replacing several subdivision sewer package plants.

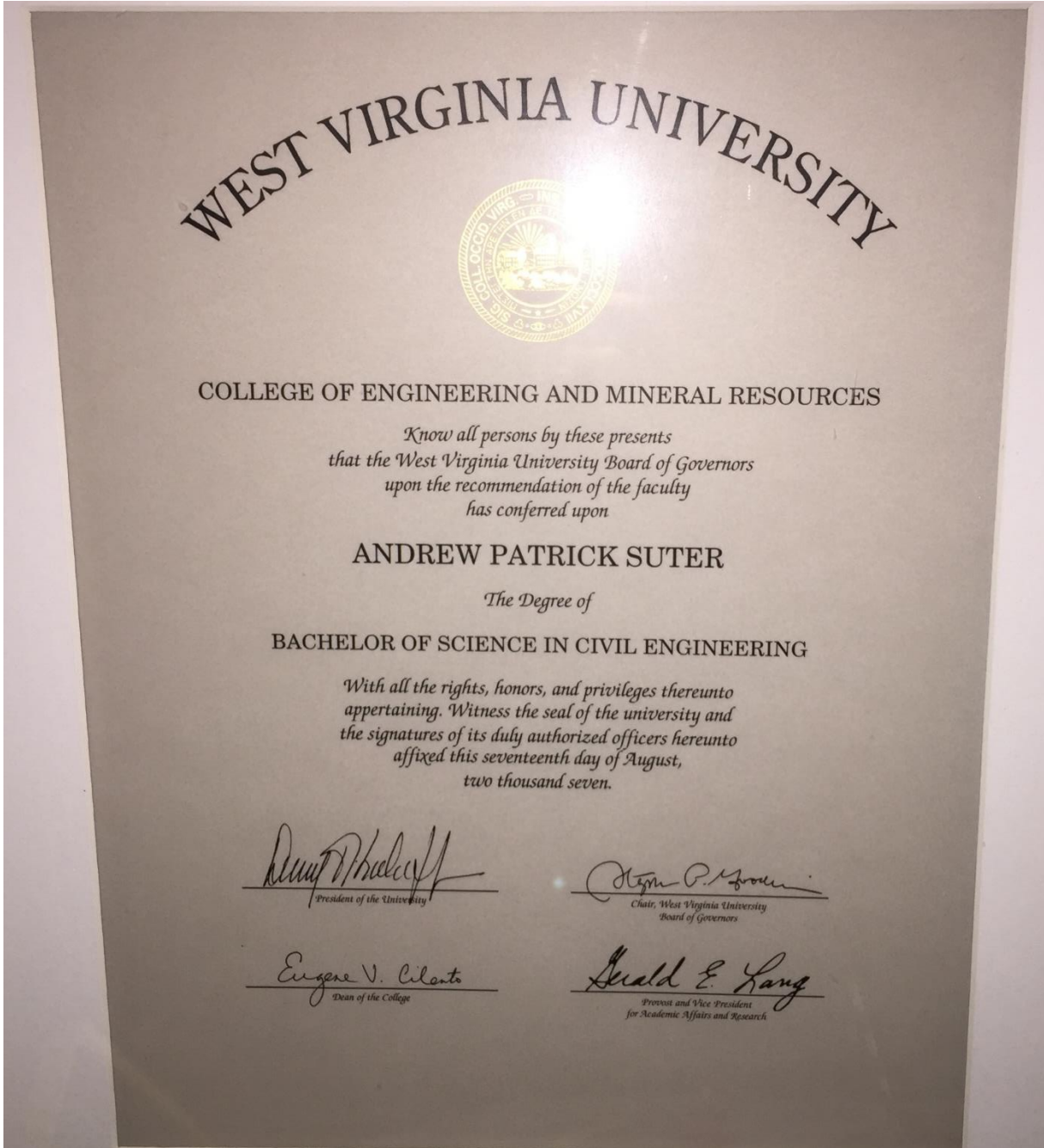
Charles Town Utility Board Water & Sewer Improvements– Huntfield Pump Station & Transfer Pump Station: Assisted with inspection for painting inside water tank.

WV Department of Transportation, Keyser McCoolle Bridge – McCoolle Water & Sewer Pump Station: Assisted with design of building and site layout and development. Assisted in the water and sewer line layout, crossing under the Potomac River.

Tuscan Ridge, Town of Davis Subdivision, Phase 3-4, WV: One of the project designers responsible for roadway layout and design, as well as lots and right-of-way design. Assisted in E & S Design of Phase 3, as well as water tank site design on phase 4.

Dan’s Mountain Access Road and Storage Facility, MD: Assisted in design of access road, and erosion and settlement control plan. Also assisted in design of storage facility, as well as site layout and development.

Potomac Plaza, Greyhound Properties, L.L.C., Mineral County, WV: Assisted in the design of foundations for building 601 and 701 shopping centers.



MATTHEW J. YOUNGBLOOD, EIT

Engineer

Assignment: Construction Engineering

Years of Experience: 9

Education: BS/Civil Engineering/2006
EIT/2010/#9152



Relevant Experience

Mr. Youngblood is a West Virginia University Civil Engineering Graduate with over 9 years of experience in public and private works projects. His career started as a summer intern for the West Virginia Department of Highways in 2001. Since joining RK&K in 2006, Mr. Youngblood has developed experience in the design of water and sewer infrastructure. Relevant experience includes:

Grant County Public Service District, Petersburg, WV: Assisted project engineer on construction of 297,000 gal. Maysville water storage tank, Points pump station upgrade, relocation of 5,700 LF of water main line on U.S. Route 220 South. Project commenced in April of 2008, with substantial completion achieved on schedule in September 2008. Additional radio telemetry completed with available contingency funds.

Town of Lonaconing, MD, New Water Distribution System: Assisted project engineer on construction of over 40,000 LF of water line replacement and extension on existing system. Two of these projects were AML funded. Duties included assisting with interpretation of contract drawings and specifications; conducting meetings; assuring that contractor complies with contract requirements; supervising field representatives; reviewing payment applications and preparing change orders.

Deep Creek Lake State Park, Garrett County MD: Designer on the replacement of water line and two chlorination feed stations. Designed an RV dump station to expand the traffic volume for the camp ground.

Wiley Ford Water System, Mineral County WV: Assisting construction engineer on replacement of approximately 55,400 LF of water main to improve the service and quality of water. The project also includes a new 300,000 water tank and booster station to provide improved water pressure and supply. Duties include assisting with interpretation of contract drawings and specifications; conducting meetings; assuring that contractor complies with contract requirements; supervising field representatives; reviewing payment applications and preparing change orders.

Greater Marion Public Service District, Marion County, WV: Assisted with Inflow and Infiltration study with sewer camera inspections. Designer on vacuum sewer line relocation to improve the efficiency of the sewer collection system in the Town of Idamay. Assisting with design to replace the vacuum system with gravity and force main sewer system.

Grant County Public Service District, Petersburg, WV: Engineer on construction of 297,000 gal. Maysville water storage tank, Points pump station upgrade, relocation of 5,700 LF of water main line on U.S. Route 220 South. Project commenced in April of 2008, with substantial completion achieved on schedule in September 2008. Additional radio telemetry completed with available contingency funds due to completion of work within budget.

The State Board of Registration
For
Professional Engineers of West Virginia



Herewith Certifies That

Matthew J. Youngblood

having completed the educational requirements satisfactory to the Board and passed the Fundamentals of Engineering Examination consisting of mathematics, the physical sciences and the principles of engineering, is hereby enrolled as an

Engineer Intern

Certificate Number – [REDACTED]

After completing a sufficient period of engineering experience of a character satisfactory to the Board, one may take the final examinations to complete the requirements of the Law for registration as a Professional Engineer in the State of West Virginia.

Issued in Charleston, WV on June 2, 2010



President

William E. Pierson
Vice-President

Bhajan S. Saha
Secretary

Richard Edlyna

Loren D. Thomas, Jr.

WEST VIRGINIA UNIVERSITY



COLLEGE OF ENGINEERING AND MINERAL RESOURCES

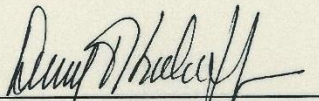
*Know all persons by these presents
that the West Virginia University Board of Governors
upon the recommendation of the faculty
has conferred upon*

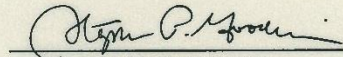
MATTHEW JOSEPH YOUNGBLOOD

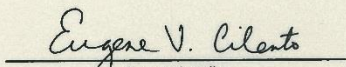
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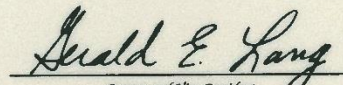
BACHELOR OF SCIENCE IN CIVIL ENGINEERING

*With all the rights, honors, and privileges thereunto
appertaining. Witness the seal of the university and
the signatures of its duly authorized officers hereunto
affixed this twenty eighth day of December,
two thousand six.*


President of the University


Chair, West Virginia University
Board of Governors


Dean of the College


Pruvost and Vice President
for Academic Affairs and Research

CHARLES L. ABERNATHY

Engineer

Assignment: Design

Years of Experience: 1

Education: BS/Civil Engineering/2014



Relevant Experience

Mr. Abernathy is a West Virginia University Civil Engineering Graduate with over 1 year of experience in public and private works projects. His career started as a Civil Engineering Co-op with the West Virginia Division of Highways for two years during college. Since joining RK&K in 2014, Mr. Abernathy has developed experience in design of various water and wastewater systems. Relevant experience includes:

Town of Oakland – Water Distribution System and Sewer Collection System Improvements: Assisted with the design of various waterline replacements and extensions to correct water pressure issues, assisted in the design of a water booster pump for the highest parts of the existing water system. Worked on the design of the sewer line replacement project and bar screen replacement at the Town’s main pump station for the wastewater treatment plant. Also prepared the Preliminary Engineering Report (PER) and Environmental Report (ER) that was submitted to USDA Rural Utility Service (RUS) for funding.

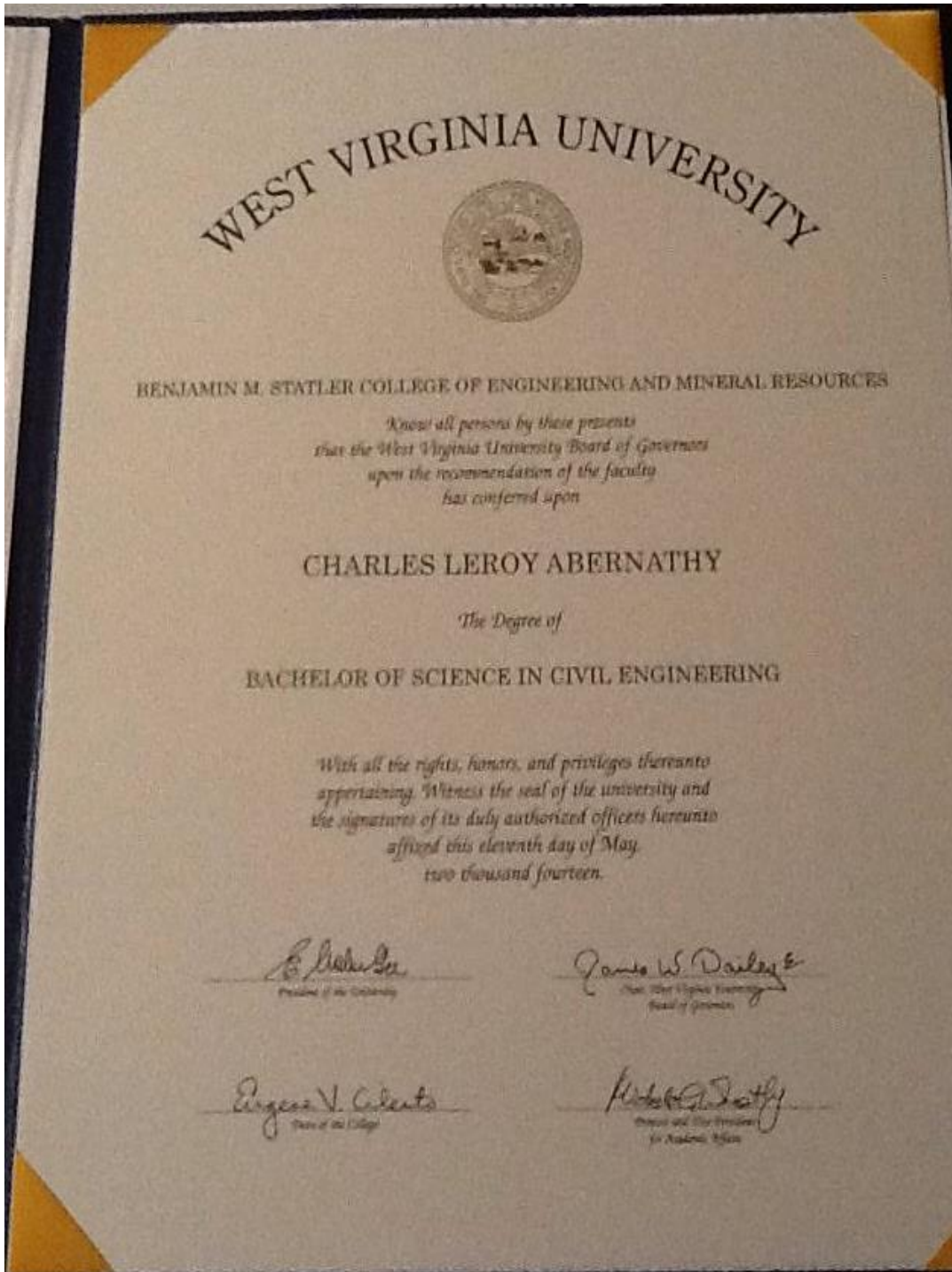
Frankfort Public Service District – Waterline Replacement and Extensions: Assisted on the design of various waterline replacements and extensions throughout the Frankfort Public Service District, Mineral County, West Virginia.

Frankfort Public Service District – Northern Mineral County Regional Sewer System, Sewer Replacement: Assisted with cost estimates, supplemental to the Preliminary Engineering Report, and repackaging of the plans for the project to rebid.

Town of Lonaconing Water Improvement Project – Water Station Run Road, Potomac Hollow Road, & Koontz WTP Backwash Line: Assisted with the design of the waterline extension projects along Water Station Run Road in Lonaconing and Potomac Hollow Road in Barton, assisted in the design of the water booster pump along Water Station Run Road. Also worked on the design of the replacement of the backwash line from the Koontz Water Treatment Plant in Lonaconing, Maryland.

Greater Marion Public Service District Investigation and Implementation (I&I): Assisted in the collection and analysis of flow data from the Carolina and Idamay pump stations and compared the data to the Worthington Wastewater Treatment Plant for the prepared report for the I&I Study.

Charles Town Utility Board – Hydraulic Model: Assisted with the hydraulic Model for the Charles Town Utility Board, Charles Town, West Virginia. The system included over 6,000 different elements that was obtained from GIS mapped data. The hydraulic model is used to see what would happen if lines are added or changed to the existing system.



LARRY W. MCDOWELL, PE, PS

Project Engineer

Assignment: Construction Management

Years of Experience: 43

Education: BS/Civil Engineering/1970

Registration: PE/1978/Civil Engineering



Relevant Experience

Mr. McDowell has over 43 years of diverse engineering experience associated with public works projects. Beginning in 1972, Mr. McDowell was employed by Stone and Webster Engineering Corporation as a senior field engineer on construction of a fossil fuel power plant for 3 years and then entered the mining industry, working for 4 years as mining engineer at Laurel Run Mining Company. In 1979, Mr. McDowell accepted employment with Allegheny Mining Corporation, a West Virginia and Maryland-based surface mining company, as chief engineer. Beginning in 1987, Mr. McDowell operated a consulting engineering and surveying business in Mt. Storm, West Virginia until accepting employment with RK&K in December of 1999. Relevant experience includes:

Maysville Water Storage Tank, Grant County Public Service District, Petersburg, WV: Project Engineer on construction of 297,000 gal. Maysville water storage tank, Points pump station upgrade, relocation of 5,700 LF of water main line on U.S. Route 220 South. Project commenced in April of 2008, with substantial completion achieved on schedule in September 2008. Additional radio telemetry completed with available contingency funds due to completion of work within budget.

Town of Lonaconing, MD, New Water Distribution System: Project Engineer on construction of over 40,000 LF of water line replacement and extension on existing system. Two of these projects were AML funded. Duties included interpretation of contract drawings and specifications; conducting meetings; assuring that contractor complies with contract requirements; supervising field representatives; reviewing payment applications and preparing change orders.

New Creek Water Association, New Creek, WV: Project Engineer for evaluation of existing system. Project engineer for design and construction of 140,000 gallon storage tank; 350,000 gallon storage tank; 30,000 gallon storage tank; new booster station; upgrade booster pumping stations; addition of fire hydrants to system, drilling of well.

Wiley Ford Water System, Mineral County WV: Construction Engineer for replacement of approximately 55,400 LF of water main to improve the service and quality of water. The project also includes a new 300,000 water tank and booster station to provide improved water pressure and supply.

Capon Bridge Industrial Park, Capon Bridge, WV: Project Engineer for the development of the park including surveying, sewage treatment plant, sewage collection system, water distribution system, and water storage tank.

Corporation of Harpers Ferry, Water Storage Tank Replacement Project, Harpers Ferry, WV: Project Engineer responsible for construction of 241,000 gallon water storage tank including demolition of existing tank. Duties included interpretation of contract drawings and specifications; conducting meetings; assuring that contractor complies with contract requirements; supervising field representatives; reviewing payment applications and preparing change orders.

Northern Mineral County Regional Sewer System Project, Frankfort Public Service District, Mineral County, WV: Project Engineer for the construction and inspection of this \$39 million regional sewer system project which includes over 64 miles of sewer collection; 15 pump stations and a new 1.20 MGD wastewater treatment plant including biological nutrient removal.



CHRISTOPHER S. DARBER

Resident Project Representative

Assignment: Construction Inspection

Years of Experience: 21

Education: Sheppard AFB
Tech School/1993
High School Diploma/1992



Registration: Utilities System Specialist; Nuke Gauge Certified

Relevant Experience

Mr. Darber has 21 years experience in the construction industry, primarily associated with sewer and water systems. Mr. Darber's career began as a Utilities System Specialist where he maintained the water and sewer system on Andrews AFB, plus maintained various water and sewer plants surrounding the base. He is very detailed in his work, and he is proficient with computers.

Lonaconing Water System, Allegany County, MD: Construction Inspector responsible for inspecting water line installation as well as the replacement of several old storm sewer inlets as part of Phase IV.

Wiley Ford Water System, Mineral County WV: Construction Inspector responsible for inspection of replacement of approximately 55,400 LF of water main and a new 300,000 water tank and booster station. Duties include responsibility of daily logs, adherence to specifications, measurement of quantities, addressing citizen complaints, and supervision of other inspectors.

New Creek Water Association, New Creek, WV: Construction Inspector for construction of 140,000 gallon storage tank; 350,000 gallon storage tank; 30,000 gallon storage tank; new booster station; upgrade booster pumping stations; addition of fire hydrants to system, drilling of well.

LaVale Sanitary Commission, U.S. Route 40 (National Highway) Water Distribution System Improvement Project, LaVale, MD: Chief Inspector responsible for compliance with specifications, daily report of activities, and measurement of quantities installed. Project included approximately 22,000 LF of water distribution line, 38 fire hydrants, 280 meter assemblies, and 24 connections to existing water line.

Northern Mineral County Regional Sewer System – Phase 1, Mineral County, WV: Chief Inspector responsible for daily logs, adherence to specifications, measurement of quantities, addressing citizen complaints, and supervising other inspectors. Project consists of construction of 1.20 mgd SBR WWTP and 10.3 miles of sewage collection system.

Frankfort Public Service District Wiley Ford Sewer Project, Mineral County, WV: Chief Inspector on construction of new gravity collection and force main sewage system to replace individual septic systems and old collection system. Duties include responsibility of daily logs, adherence to specifications, measurement of quantities, addressing citizen complaints, and supervision of other inspectors.

Ridgeley Sewer Improvement: Chief Inspector responsible for daily logs, adherence to specifications, measurement of quantities, addressing citizen complaints, and supervising other inspectors. The project included installation of 18,400 Lf of main line sanitary sewer, 91 manholes, 327 single house connections, 1,800 LF of storm drain, and 17 storm drain inlets throughout the Town of Ridgeley.

**West Virginia
Division of Natural Resources
Park and Recreation Division**

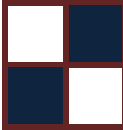
**Greenbrier Forest State Park
Water System Improvements**

SECTION 3



Project Understanding/ Approach

SECTION 3



PROJECT UNDERSTANDING

West Virginia Division of Natural Resources (DNR) is seeking to procure the services of an Engineering/Architectural firm to meet three specific project goals/objectives to upgrade Greenbrier State Forest's drinking water system. The goals are as follows:

- **Goal/Objective 1:** Review existing plans and conditions as well as the operation of the park and evaluate while communicating effectively with the Owner to determine a plan that can be implemented in a manner that will minimize disruption to concurrent operation of the facility and meet all objectives.
- **Goal/Objective 2:** As a portion of this process outlined in Objective 1, provide all necessary services to design the facilities described in the EOI in a manner that is consistent with the DNR needs, objectives, current law, and current code; while following the plan to design and execute the project within the project budget.
- **Goal/Objective 3:** Provide Construction Contract Administration Services with competent professionals that ensures the project is constructed and functions as designed.

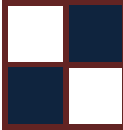
With these project objectives in mind, RK&K has gathered a responsive team that will provide creative solutions to meet DNR's project goals. The remainder of Section 3 addresses DNR's project objectives.

RK&K will develop a priority list of required improvements and estimated costs to enable the projects to proceed. RK&K will provide necessary services including preliminary and final design; assistance in obtaining all required permits; preparation of construction plans, specifications and bidding documents, assistance with bidding and award; construction administration; and inspection services.

OVERVIEW OF PROJECT SITES

Situated in the southeastern mountains of West Virginia near White Sulphur Springs, West Virginia, Greenbrier State Forest provides visitors many outdoor opportunities. The park includes 13 miles of trails for hiking/biking, a swimming pool, 14 cabins, a 16-unit campground, numerous picnic areas, archery & muzzleloader shooting range, and breathtaking views of the Greenbrier Valley from atop two overlooks along Kate's Mountain.

On November 24, 2015, Daniel Tichinel, PE, RK&K project engineer had the privilege of touring the park with Jesse Anderson, Park Superintendent to gather a better understanding of the park's needs for a drinking water system upgrade. As seen in Figure 1, Greenbrier State Forest operates four separate drinking water systems, i.e., the Pool system, the Park Office/Residences System, the Cabin System, and the Campground System.



The park has recently converted the Pool System from gravity feed to a pressure feed system and installed a new water line to the Pool, i.e., an 18k gallon reservoir was abandoned by installing a contact and pressure tank in the nearby well house. The Park Office/Residences System is also a pressure system that functions well; however, the system's water lines have not been upgraded. The Cabin System includes a well house, reservoir, and galvanized water lines. The Campground System includes a well house, reservoir, and galvanized water lines.

Greenbrier State Forest Existing Conditions, Issues, & Design Considerations

During the site tour, the park superintendent discussed numerous issues with the existing water systems. A summary of the issues is listed below:

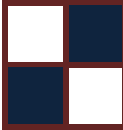
- Cabin System
 - The system provides water to 14-cabins.
 - Reservoir and water lines are leaking causing the well pump to operate 5 hours per day.
 - The elevation of the reservoir is not high enough causing low-pressure issues during peak demands.
 - Iron precipitation causes poor water quality requiring the park to flush the system twice a week.
 - Cabin guests frequently complain about the water quality and pressure issues.
- Campground System
 - The system provides water to the campground bathhouse and 2-spigots within the campground.
 - Water lines cross low-lying areas above ground.
 - Water lines leak.
 - Design should include consideration to park aesthetics and low-easy maintainability
- Park Office/Residences System
 - Water lines need replaced due to their age.
- Pool System
 - The Park is pleased with the recent conversion to a pressure system.
 - The abandoned reservoir needs to be removed.

The park superintendent also discussed the need that a new water system(s) need to be low maintenance to minimize disruption to park operations. Accordingly, some of the key considerations of an RK&K design would include a reliable, low-maintenance system and park aesthetics. Moreover, an RK&K design will take into account the Park's recent success with converting the Pool System from gravity feed to pressure feed.

PROJECT APPROACH

The overall approach to the projects will be to develop comprehensive plans and administer construction contract administration for the replacement of the deteriorated water supply system at Greenbrier State Forest. Specifically, RK&K will approach the project as follows:

- Communication with DNR during all phases of the projects.
- Preliminary Engineering/Planning Report



- Review RK&K's understanding of current situations with DNR and Greenbrier State Forest.
- Identify a plan with DNR and the parks to minimize disruption of the concurrent operation of the parks.
- Design
 - Complete a full design of the facilities identified during the planning phase within the agreed upon budget.
 - Construction Plans and Specifications
 - Preparation of Bidding and Contract Documents
 - Bidding Phase Assistance
 - Participation in the Evaluation of Bids Received
- Construction Contract Administration
 - Construction Management & Inspection

COMMUNICATION WITH OWNER

Upon DNR's acceptance of RK&K's Expression of Interest, RK&K will meet with the Division of Natural Resources representatives to discuss the projects and review criteria to meet DNR's goals. Communication will continue through each phase of the project by identifying a project update meeting schedule with DNR.

PLANNING

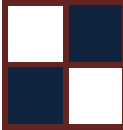
A full analysis will commence to determine a plan with the DNR and the parks to minimize disruption to current operations of the park and meet all the project objectives for example:

- Communicating with DNR from Day 1.
- Completing a full analysis of Greenbrier State Forest's water systems.
- Reviewing in detail existing plans and water infrastructure for Greenbrier State Forest.
- Site topography of Greenbrier State Forest.
- Current park operations at Greenbrier State Forest.
- Completing a full analysis to determine peak drinking water demands for the water systems at Greenbrier State Forest.
- Identify a project schedule for each site.

The following paragraphs detail RK&K's approach to these projects that has been proven successful on past projects similar to the scope of work required for Greenbrier State Forest Water System Renovation Project.

WATER SYSTEM REVIEW

RK&K's team will gather and review all available information including existing plans and specifications, water system records, existing reports and other information that may be available. A meeting with the WV Bureau of Public Health will also be conducted to receive their input, recommendations and a review of requirements.



After the initial discussion and reviews are completed, RK&K will meet with DNR officials and system operators, as appropriate, to present findings and preliminary recommendations for the projects. In addition to presenting the results of the study, RK&K will solicit input from the DNR at this or subsequent meetings. RK&K has learned that these meetings are essential to everyone's understanding of the water system's needs and the resultant proposed project. These meetings also serve to reduce or eliminate future misunderstanding of the work to be completed.

PRELIMINARY ENGINEERING/PLANNING REPORT

After the proposed improvement project is fully defined, RK&K will proceed with development of a Preliminary Engineering/Planning Report (PER). The report will include project description, project cost estimate, and funding scenarios necessary to complete the project.

As a partner with DNR, RK&K will support the project through the entire review process, including attending meetings with the review committees, and addressing any questions that may arise.

Meeting project timelines is an important part of the approval process. RK&K is committed to working with DNR to meet these requirements to deliver a successful project for the parks.

As the projects are defined and approved by DNR, RK&K will prepare construction plans and specifications as described below.

CONSTRUCTION PLANS AND SPECIFICATIONS

Upon approval of the design by DNR, RK&K will proceed with the development of construction plans and specifications. The construction plans and specifications will be prepared to support the various facets of the project. Upon completion, the plans and specifications will be combined with the bidding and contract documents necessary to advertise the project for bid. The plans will provide a detailed description of the work to be completed by the contractor while the specifications will define the method of completing the work and the materials specified.

During the development of the contract plans and specifications, RK&K will meet frequently with the District to review progress and receive input. Normally, plans for owner and regulatory agency review and comment are submitted at 50%, 90%, and 100% completion status.

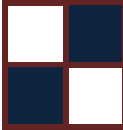
Development of complete detailed plans and specifications assure completion of an effective project with minimal construction problems and change orders, which often result in additional costs.

PREPARATION OF BIDDING AND CONTRACT DOCUMENTS

With the completion of the plans and specifications, RK&K will commence preparation of the contract and bidding documents in anticipation of advertising the project for bids. This complete package will be used to define the project requirements from a contractual perspective and will assure uniformity of requirements among all contractors.

Assembly of the contract and bidding documents completes the project package. While many of these documents are determined by funding agency requirements, RK&K will use the Engineers Joint Contract Document package as the basis of the contract documents.

The Engineers Joint Contract Documents Committee (EJCDC) is an undertaking of the American Consulting Engineers Council (ACEC), the American Society of Civil Engineers (ASCE), and the National Society of Professional Engineers (NSPE). EJCDC has developed and periodically updates a set of documents



representing the latest and best thinking of practicing engineers and legal counsel on contractual relations between the parties involved in construction-related projects. These documents have been endorsed and recommended by the various funding agencies in West Virginia.

The EJCDC documents are standard contract documents utilizing carefully drawn language to define the respective responsibilities of the parties with respect to construction related projects based upon “test of time” experience. These documents are the industry model for professional engineering services and construction processes. The documents spell out accepted division of duties and responsibilities of the Engineer, Owner, and Contractor, and represent the culmination of legal precedent and expert review.

Following preparation of the complete construction document package, permits must be obtained from the Department of Health, Department of Environmental Protection and other applicable entities before going to bid. All necessary right-of-ways or easements (if any) must be acquired. RK&K will prepare the permit application for the DNR’s submittal as well as provide any technical assistance during the review process. RK&K is licensed to survey and prepared to assist DNR in securing easement(s) and rights-of-way should they be necessary for this project. Although these approvals are straightforward, they will take time. All of this is dependent on the source of funding for the project.

BIDDING PHASE ASSISTANCE

With approval of the DNR and the various regulatory agencies, the project can proceed to bid advertisement. RK&K normally recommends advertising a project such as this for 30 days. During that time period, RK&K will conduct a pre-bid meeting with potential bidders to review the project and answer any questions. An addendum will be issued as necessary to clarify any element of the project.

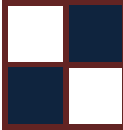
The project will be advertised for bids in accordance with State Law and Agency requirements. Projects are normally advertised in the local and regional newspapers. Advertisement in the Charleston or adjacent newspapers is also recommended in order to reach a wide audience of contractors. In addition to the newspapers, plans will be placed with Dodge Reports, West Virginia Contractors Association, and other plan rooms in the West Virginia area. The objective is to alert as many contractors as possible and increase competition towards securing a low bid for the project. A contract of this scope is normally advertised for three to four weeks to allow sufficient time for contractors to assemble prices and prepare a competitive bid.

At a specified date and time, bids will be collected at a designated location, at which time RK&K will assist DNR in opening and reading aloud all of the bids received. The apparent low bidder will be announced at the end of the meeting.

PARTICIPATION IN THE EVALUATION OF BIDS RECEIVED

After the bids are opened, read aloud, and the apparent low bidder announced, RK&K will review the bids in detail. This review includes:

- Verifying that the math is correct.
- Verifying that all documentation required is satisfactory. Some of these requirements are initially checked at bid opening.
- Evaluation of contractors’ ability to accept and satisfactorily complete the project. This could include evaluation of financial assets, current workload, previous projects, and discussion with previous clients and engineers who have worked with the contractor.



After the comprehensive review is completed, RK&K will make a recommendation to award the contract to the selected contractor.

At this stage of the project, RK&K will prepare the NOTICE OF AWARD and CONTRACT AGREEMENT to send to the contractor. After the contractor signs the contract agreement and returns it along with the payment and performance bonds and any other required documents, RK&K will issue, with the Division's approval, a Notice to Proceed. A contractor normally has ten days to start construction after receipt of this notice.

CONSTRUCTION MANAGEMENT AND INSPECTION

Once the project proceeds to construction, RK&K will monitor the construction phase of the project, acting as official representative for DNR to insure that requirements of plans and specifications are met and the project functions as designed. The construction engineer will visit the site as often as necessary, but at least bi-weekly as the project proceeds.

One of the key duties of the engineer during the construction phase will be to review shop drawings and submittals from the contractor for compliance with plans and specifications. RK&K will conduct monthly progress meetings with the contractor and DNR to review progress and to resolve any problems that may arise. RK&K will also review the contractor's pay requests to verify quantities and recommend payment for work completed.

RK&K will provide a resident project representative during the construction phase of the project. The resident inspector will provide accurate daily records of all work being performed, including quantities of materials being used on the project. The resident inspector will assure that work is being performed in compliance with plans and specifications. The resident inspector will also assess the project schedule, to make sure that upcoming work is relative to what is completed. This practice enables the prevention of potential problems before they occur making sure the appropriate people are aware of such problems as soon as possible.

At the completion of the project, RK&K will conduct a walk-through inspection with DNR and the contractor, prepare a punch list of items needing completed, and conduct a final inspection after work is completed. RK&K will also provide technical assistance during the one-year warranty period to resolve any problems that may occur. Near the end of the warranty period, RK&K will conduct a final inspection of the facility with DNR. Any problems or defects noted will be sent to the contractor for correction.

**West Virginia
Division of Natural Resources
Park and Recreation Division**

**Greenbrier Forest State Park
Water System Improvements**

SECTION 4



History of Projects

PAST PERFORMANCE

RK&K has historically developed long-term relationships with numerous municipal and private clients, and has consistently met or exceeded all established project milestones for past projects. RK&K has a repeat clientele rate of more than 80%. The quality of RK&K's performance is reflected in these repeat selections, as well as our ability to meet project schedules while maintaining reasonable fees. These long-term relationships were established by providing high-quality, consistent and responsive professional services. As an example, RK&K has been providing engineering services to both Frankfort Public Service District in Mineral County, WV and the Town of Lonaconing, MD since the early 1990's.

WHAT DO CLIENTS SAY ABOUT RK&K?

"The Town of Lonaconing has been working with RK&K Engineers since 1991... We sincerely appreciate their professionalism, responsiveness to our needs and the way they conduct business. They have a distinct ability to meet every challenge or deadline that they encounter. This firm is highly recommended by the Town of Lonaconing." – **Aaron C. Wilt, Town of Lonaconing**

"This is just a note to say thank you and send my personal appreciation on staying with us SO LONG in getting this project to the stage it is at now. I am not sure anyone else would of stuck so long. You guys have done a tremendous job above and beyond the call of duty. There is not enough words truly to express how I admire a company and the men who work for it to be concerned about the people along with the project. Thanks again for all your help and I am looking forward to working with you to get it to completion." – **Carol Brooks, Greater Marion Public Service District**

"The Board of Directors of the Frankfort Public Service District would like to take the opportunity to send this letter of appreciation for the exceptional service we have received from your firm. For more the last 7 years we have been actively involved with RK&K on projects totaling in excess of 50 million dollars. Our primary contact has been through Mr. David Vanscoy, your local division director, and we would like to express our appreciation for what would easily be considered service above the call of duty. Mr. Vanscoy has always been available to any of our board and employees for any issue that needs attention. Our board meetings usually include significant time and discussion on all facets of our projects.... Additionally, our dealing with RK&K includes most members of your engineering staff and field oversight people. Without exception, we could not be treated with more respect and understanding of the needs and unique problems encountered in our projects. In short, we would be very hard pressed to manage and operate our systems without the resource of RK&K's people behind us." – **Douglas Brelsford, Chairman, Frankfort Public Service District**

"RK&K was selected by the Charles Town Utility Board in 2009 to perform complete design and engineering work for both water and wastewater projects. To date, several projects have been successfully completed and several projects are in design and engineering. John Cole and other staff engineers that support the Charles Town Task Orders, continue to be dedicated to the success of all efforts of the Board." - **Jane Arnett, Utility Manager, Charles Town Utility Board**

“RK&K has raised the bar as to the quality of work the City expects from its consultants. The care, thought and attention to detail in which they apply to their proposals is carried through to project completion/construction. Each member of their team is knowledgeable in their field, collaborative and pleasant to work with. Challenges (from public comment, politics, changing regulations, etc.) are overcome through brainstorming, teamwork, pulling specialists from other RK&K offices, offering solutions/options...resulting in an improved project. This approach has been extremely helpful as the City learns to administer its own project through UCI/LAD.” **Jeanette Janiczek, UCI Program Manager – City of Charlottesville, Neighborhood Development Services**

REFERENCES

The best evidence of the quality and timeliness of engineering services on RK&K's past projects is provided by those served. Therefore, WV DNR representatives are encouraged to contact any or all of the following references to confirm the quality and timeliness of RK&K's services.

CLIENT	CONTACT/ADDRESS	PHONE/E-MAIL
Charles Town Utility Board	Jane Arnett, Utilities Manager 832 South George Street Charles Town, WV 25414	Phone: 304.725.2311 jarnett@charlestownutilities.us
Town of Lonaconing	Aaron Wilt, Administrator 7 Jackson Street Lonaconing, MD 21539	Phone: 301.463.6233 aaron.wilt21539@gmail.com
Berkeley County Public Service Water District	Christine Thiel, PE 251 Caperton Boulevard Martinsburg, WV 25403	Phone: 304-267-4600 cthiel@berkeleywater.org
Frankfort Public Service District	Michael Bland, Administrator 150 Armstrong Street Keyser, WV 26726`	Phone: 304.788.5921 mbland@mineralcountywv.com
New Creek Water Association	Rob Riggleman PO Box 194 New Creek, WV 26743	Phone: 304.788.5886 Newcreekwater@frontier.com
Greater Marion Public Service District	Carol Brooks, Manager 44 Aberdeen Drive Worthington, WV 26591	Phone: 304.287.2244 mommaredsquidrel@msn.com
District of Columbia Water & Sewer Authority	Roger Gons 5000 Overlook Avenue SW Washington, DC 20032	Phone: 202.787.2000 roger.gans@dcwater.com
Baltimore County Department of Public Works	Gerald McHenry 400 Washington Avenue Towson, MD 21204-4665	Phone: 410.887.8543 mchenry@baltimorecountymd.gov

Task 6 – Plan Review Engineering services for developers building within the CTUB water and sewer service area and wishing to be connected to the system. As part of this service, RK&K reviews the construction documents to ensure compliance with CTUB’s design requirements and determining the available infrastructure. Task is on-going.

Task 6V – Engineering assistance with the evaluation of the Utility’s Willow Spring WWTP which is exceeding the NPDES permitted discharge on metals; addressing odor and noise issues being experienced at the Utility’s Tusawilla WWTP; registration of all the aboveground storage tanks in accordance with WV Senate Bill 373; preparation of an updated sewer strategic plan; assistance with the preparation of a source water assessment and protection plan. Task is on-going.

Task 7 – Design and Construction Engineering services for a 900-gpm effluent pump station and 8” dia. force main as part of a wastewater treatment plant upgrade project. The project reached substantial completion in March 2015. Task is on-going.

Task 8 – Construction Engineering services for reviewing and approving certified payroll from the contractor/subcontractors upgrading the Tusawilla wastewater treatment plant project ensuring compliance with prevailing wage rates established by the project. Task completed.

Task 9 – Design and Construction Engineering services for the construction of a scalping sewage pump station to divert a portion of sewage flow to another treatment plant for treatment. Task completed.

Task 10 – Design and Construction Engineering services to create a wetland adjacent to the Tusawilla wastewater treatment plant. The wetland creation is part of a consent decree with the DEP for creation of a supplemental environmental project. Task on-going with construction scheduled for summer of 2015.

Task 11 – Design and Construction Engineering services for addition of emergency back-up generators at the water treatment plant and raw water intake pumping station. Task completed.

Task 12 - The CTUB has been very active in implementing various sewer improvement projects in accordance with their strategic plan. Upcoming design and construction engineering projects include the design of a new scalping pump station adjacent to a third WWTP, upgrades to three (3) existing sewage lift stations, construction of a new 10” dia. gravity sewer line, and upgrades to the existing Charles Town WWTP bringing the treatment plant into BNR compliance. Task is on-going.

Task 13 – Engineering services for overseeing the painting of the 500,000 gallon Avis Street Water Storage Tank. Task completed.

Task 14A – Design and Construction Engineering services for the construction of approximately 12,300 LF of 12” water main between the water treatment plant and a 500,000 gallon water storage tank. Task is on-going with construction to commence fall of 2015.

Task 14B – Design and Construction Engineering services for the replacement of approximately 8,000 LF of 2”, 6 & 8” water mains along Jefferson Avenue. The existing water mains are undersized and experiencing water loss and low pressures. Task is on-going with construction to commence fall of 2015.

Task 15 – Design and Construction Engineering services for expanding the flocculation and sedimentation basin at the water treatment plant for bringing the water treatment plant into compliance with State Health Department requirements. Task will also include the construction of a 1 MG water storage tank to meet the new SB 373 regulatory requirements. Task is on-going with construction to commence fall of 2015.

Task 16 – Engineering assistance with the evaluation of an adjacent public sewer utility that CTUB desires to purchase a portion of their sewer collection system. Task is on-going.

Task 17 – Engineering assistance with improvement of the performance of the Tuscawilla WWTP. Since 2013 construction the wastewater treatment plant, the plant has experience operation and permitting issue. Task is on-going.

Task 18 – Design and Construction Engineering services for overseeing the installation of a system wide water SCADA monitoring system that will monitor all of the water storage tanks, booster station and water treatment plant in an effort to improve the overall performance of the water system; painting of an elevated water storage tank; installation of a mixing system within a WST; and the demolition of a decommissioned WST. Task is on-going with construction to commence fall of 2015.



VA MEDICAL CENTER WATER & SEWER DEFICIENCIES CORRECTION

Martinsburg, West Virginia

Owner/Contact: Department of Veterans Affairs
Semper Fi Contracting, LLC, Sebastian Roman, President
703.327.6047

Cost: \$0.9 Million

Completion: 2013



Brief Description

The Department of Veterans Affairs solicited a request for proposals for major improvements to the water and sewer system at the VA Medical Center in Martinsburg, West Virginia on March 13, 2012. The scope of work involves new and replacement water and sewer lines, removal and reclamation of existing abandoned water and sewer infrastructure and rehabilitation or replacement of existing sewer collection system.

As subcontractor to Semper Fi Contracting, LLC, RK&K serves as Engineer of Record on this \$0.9 Million design-build project.

RK&K provided the technical proposal submittal, field survey and design for this design-build project. The project consists of corrections to the water and sewer utilities deficiencies on the west side of the VA Medical Center.

A Notice to proceed was issued to Semper Fi Contracting, LLC on June 13, 2012, with completion scheduled for March 20, 2013.

RK&K's design encompasses the complete replacement of selected potable water supply lines to be relocated to facilitate new expansion; and sanitary sewer distribution lines serving the existing buildings and buildings proposed for the west side of the main hospital building. The existing water and sewer services are deficient and lack peak capacity requirements.

The water line consisted of 1,100 LF of 10" Ductile Iron Pipe. The new sewer line consisted of 1,300 LF of 8" PVC with manholes.





WILEY FORD WATER LINE REPLACEMENT

Wiley Ford, Mineral County, West Virginia

Owner/Contact: Frankfort Public Service District

Michael Bland

150 Armstrong Street

Keyser, WV 26726

mbland@mineralcountywv.com

Cost: \$5.1 Million (Fees)

Completion: 2013



Brief Description

Wiley Ford, a community of 1,078 residents, is located on the West Virginia side of the Potomac River opposite Cumberland, Maryland. Evolving from early 18th century development, the community's growth accelerated in 1913 when the Homestead Development Corporation laid out 596 lots as the Wiley Ford Addition to the City of Cumberland. Further growth resulted from construction of the Potomac Highlands Regional Airport contiguous to the Wiley Ford community.



The existing private water system contains mostly small lines – 2" galvanized or less. 80% of the lines are 2" and in poor condition. As a result, there are pressure and volume problems within the system, particularly at the higher elevations. The system had minimal fire protection available.

Frankfort Public Service District purchased this system and immediately started a project to completely replace and expand the system to the adjacent area.

A \$400,000 project extension to Potomac Highland Regional Airport and the Community of Swan Pond was constructed with monies available from a bid under-run.



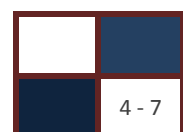
The distribution system consisted of water line replacement and expansion including 14,195 LF of 8" water mains; 28,870 LF of 6" water mains; 12,255 LF of 2" water mains; 9,975 LF of ¾" water services; 54 fire hydrants; and 400 radio read meter services.

To replace the existing water being supplied by Cumberland, MD at extremely high cost, Frankfort Public Service District chose to develop a well source. A 700' deep well was constructed furnishing 100 gpm. The water is pumped through treatment for chlorination and fluoridation into system storage tank.

A 300,000 gallon water storage tank, and a telemetry system were installed at the same elevation as Frankfort PSD existing Sherwood Acre tank allowing for the interconnection of the two systems.

As part of RK&K's services, we assisted FPSD in securing funding-loans and grants utilizing the cost savings realized by producing their water instead of purchasing it. As a result, FPSD was able to complete the project without raising rates.

**Division of Natural Resources
Greenbrier State Forest
Water System Improvement**





THAYERVILLE WATER SYSTEM

Garrett County, Maryland

Owner/Contact: Garrett County Department of Public Works

Patrick Hudnall

2008 Maryland Highway, Suite 2

Mountain Lake Park, MD 21550

phudnall@garrettcountry.org

Cost: \$4.5 Million

Completion: 2013



Brief Description

In 2010, the Garrett County Department of Public Utilities retained RK&K's design services to design a water system to serve the residents and commercial development along the U.S. 219 and Glendale Road Corridors within Thayerville, including residents within the Mountainside Development. Water to the existing customer base is provided by individual and small system wells, most of which suffer from poor water quality and quantity. The proposed project consisted of constructing a water treatment facility, distribution system, two (2) water booster stations and two (2) water storage tanks. This project was a high priority for the County and as such, the engineering contract design time was limited to 160-days to provide the County with the necessary documents to advertise the project for construction, less regulatory agencies permit approval.



Treatment Plant - As part of the project, a 600 gpm water treatment facility was constructed adjacent to two (2) 300 gpm wells that the Garrett County Department of Public Utilities previously drilled. Treatment consisted of chlorination of the well water. The treatment facility consisted of two (2) parallel 300 gpm chlorine contact chambers flowing into a high service clear well. Limited space for the treatment facility resulted in a two level structure. The lower level, below grade, housed the chlorine contact chamber and high service pumps while the upper level contained house controls, a small lab, a chlorine room, and a restroom. Location of the treatment facility, adjacent to Deep Creek Lake also dictated aesthetically pleasing façade on the exterior of the structure to blend in with the surrounding buildings.

Booster Stations and Water Storage - Due to the topographic layout of the area and to minimize excessive system pressures, while minimizing the number of pressure reducing valves (PRV's), the system will consist of three (3) pressure zones. The lowest zone (Zone 1) will served the customers below an elevation of 2710' while the second zone (Zone 2) will serve customers between elevations 2710' and 2918'. The upper most zone (Zone 3) will serve the customers above the 2918' elevation. Water storage for Zone 1 is a 1 MG water concrete storage tank while water storage for Zones 2 and 3 consists of a 165,000 gallon concrete water storage tank. Even though water from Zone 3 will be supplied from a water storage tank, system pressures will be dependent upon a booster pump. The distribution system consists of 2" through 12" diameter pipe. Customers within Zones 1 and 2 will have fire protection while the customers within Zone 3 will have to rely on the proximity of Zone 2 for fire protection. The system was designed for future expansion around the lake.

TOWN OF LONACONING WATER SYSTEM***Allegany County, Maryland***

Owner/Contact: Town of Lonaconing
 Aaron Wilt, Administrator
 7 Jackson Street
 Lonaconing, MD 21539
aaron.wilt21539@gmail.com

Cost: \$3.0 Million

Completion: Ongoing

***Brief Description******Initial Design of Three Package Water Treatment Plants***

RK&K was responsible for the planning, design and construction management for three package water treatment plants to serve three small communities in Allegany County.

Engineering Services:

The project included identification of suitable locations for the proposed water treatment plants, determination of the capacity of each of the proposed ground water storage tanks for installation on the site of each water treatment facility and evaluation of system hydraulics. Each of the four 100-gpm package water treatment plants included a finished groundwater storage tank and backwash waste holding tank. The Midland-Gilmore plant has a 500,000-gallon tank, Koontz Run has a 300,000-gallon tank and Charlestown has a 200,000-gallon tank. Storage tanks supply potable water to the Lonaconing water distribution system which provides water for filter backwash and for the plant water system. The backwash waste holding tanks are used to remove and concentrate the waste solids using sedimentation. In conjunction with the water treatment plant project, 10,000 linear feet of 10" raw water main was rehabilitated and/or replaced and 14,000 linear feet of 8" finished water main was installed.

***Additional Projects Completed:***

Since the completion of the water plants and storage tank, RK&K has provided services including design engineering, permitting, cost estimating, construction engineering and project representative inspection on the following additional projects:

Phase I, II, III, and IV and Warnick Road - These projects replaced nearly 40,000 LF of water main in Lonaconing, Maryland area and included a booster pump station and 10,000 gallon water storage tank. The projects were completed in 2009.

Buskirk Hollow and Miller Road - Contract was awarded in May 2008 for \$930,800 to provide potable water or replace existing old lines to 47 customers. The project was completed \$81,000 under budget in December 2008 with 8,800 LF of main line and 9 fire hydrants installed involving 3 stream crossings.

Mill Run Water Line Extension - In 2007, Town of Lonaconing enlisted RK&K to design a water distribution system to service the Mill Run Community located south of Barton, Maryland. Design was completed and contract awarded in July 2008 for \$1.297 million to provide potable water to 54 customers. The project included over 15,000 LF of water line, a railroad bore, 9 stream crossings, and 8 fire hydrants. The project was completed in August 2009 at \$80,000 under budget.

Town of Midland – RK&K completed design for project to replace old remaining water lines, valves, meters and hydrants in the Town of Midland, Maryland in 2008. The project was awarded in October 2008 for \$1.226 Million funded by USDA Rural Utility Services and Maryland Department of Environment. Construction commenced in November 2008, with RK&K providing construction representative services, and was completed in November 2009 at a cost of \$1.094 Million - \$132,000 under budget. Items installed include 7,600 LF of mainline, 100 meter upgrades to radio read, 4 fire hydrants, and 3 stream crossings.

Town of Barton – RK&K designed a project to replace and upgrade water distribution and service system in the Town of Barton, Maryland. The project was awarded in March 2010 for \$1.876 Million funded by USDA, Rural Utility Services and Maryland Department of Environment. Construction commenced in April 2010 with RK&K providing construction representative services and was completed in June 2011, at a cost of \$1.674 Million – 202,000 under budget. Items installed include 17,000 LF of mainline, 486 meter upgrades to radio read, and 16 fire hydrants.

Charlestown Road Waterline Extension – Design of a waterline extension project to extend potable water service to 15 residential sites in the Town of Lonaconing was completed by RK&K and awarded in March 2011 for \$458,700, funded by Maryland Department of Environment, Bureau of Mines. Construction commenced in April 2011 with RK&K providing construction representative services and was completed in September 2011 at cost of \$434,900 - \$23,800 under budget. Items installed include a 25,000 gallon steel underground water storage tank, booster pump station, 3,040 LF of mainline, 16 meter assemblies, and 3 FH.

Emergency Generator Installation – RK&K completed design of Emergency Generator Installation for Charlestown, Koontz, and Midland-Gilmore Water Treatment Plants with contract being awarded in February 2012 for \$166,300 funded by Community Development Block Grant. Construction commenced in March 2012 with RK&K providing construction representative services and was completed in June 2012 at cost of \$166,300 – on budget. Items installed include 2 – 60 KW and 1 – 100 KW generators with concrete pad and automatic transfer switch.

Water Meter and Control Valve Replacement – RK&K completed design to replace 370 meters with radio read meters and replace 25 meter assemblies throughout Lonaconing Water Company service area as well as replacement of pressure reducing valves at Koontz, Meadow and Middle School stations. The project was awarded in July 2012, for \$252,600 funded by USDA, Rural Utility Services. Construction commenced in August 2012. RK&K provided construction management and inspection services. Construction was completed in January 2013.

SCADA System – In September 2012, RK&K completed design of a complete SCADA system for Lonaconing Water Company, including SCADA equipment at water treatment plants, water storage tanks, water pump stations and Town Hall. Funding was by USDA, Rural Utilities Services. Construction was complete July 2014.



Midland Water Tank – Charlestown Water Tank Roof Replacement – Reservoir Fencing – In September 2012, RK&K completed design of a 483,000 gallon water tank to assure adequate water availability to residences as well as fire protection for the Town of Midland, a roof replacement for Charlestown Water Tank, and fencing for two reservoirs. The project was funded by USDA, Rural Utility Services with construction completed August 2013..

Koontz Run Reservoir Water Storage Tank and Weir – RK&K provided design and contract preparation for construction of a 3.0 million gallon pre-stressed concrete raw water storage tank; concrete weir and impoundment, necessary connecting water lines, removal of existing Koontz Dam and Reservoir, and restoration of Koontz Run through old reservoir area. The project was funded by USDA, Rural Utility Services and Maryland Department of Environment. RK&K provided construction engineering and inspection. Construction was complete in 2014.





POTOMAC RIVER RAW WATER INTAKE AND PUMPING STATION

Berkeley County, West Virginia

Owner/Contact: Berkeley County Public Service District

Christine Thiel, PE
251 Caperton Boulevard
Martinsburg, WV 25403

Cost: \$663,642.00

Completion: Complete: 2009



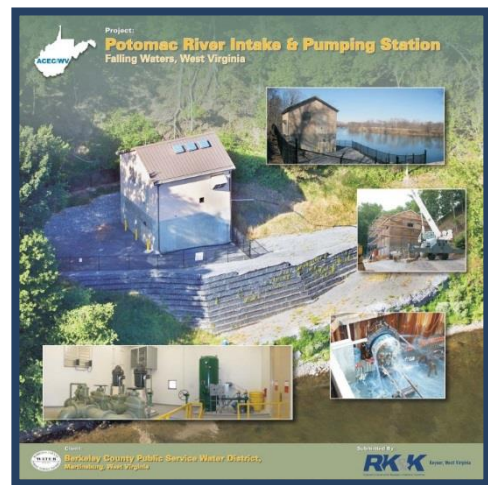
Brief Description

RK&K performed design, construction management and inspections services for the pumping station construction. This included maintaining all project records, answering requests for information, reviewing change orders and submittals, schedule review, and maintaining all quality control requirements for new construction, including the demolition of the existing station. The RK&K on-site inspector served as liaison for the contractor, owner, and design engineer.

Berkeley County Public Water Service District expanded the capacity of its facilities with a number of projects for a new pumping station and raw water intake located on the Potomac River near Falling Waters, West Virginia.

For this project, a new deep well pumping station and submerged raw water intake replaced an existing intake and pumping station. The pumping station had an initial capacity of 4 mgd, but was expanded to provide a future capacity of 12 mgd. By extending the submerged intake to a location further from shore and into deeper water, the pumping facility is expected to operate more reliably during cold weather periods.

A submerged intake conveys water to the pumping station where 150-HP vertical turbine pumps pump the water to the treatment facility via an existing raw water transmission main. The dual 30-inch intake pipes we reinstalled under the Potomac River using micro-tunneling methods. The new pumping station included facilities for future pretreatment chemical addition as well as allowed for zebra mussel control. The current pumping station was demolished as part of the project.



This project received the 2009 Silver Award for WV Engineering Excellence from the American Council of Engineering Companies (ACEC) of West Virginia.

Role: Prime, pumping station design, construction management and inspection.



CITY OF CHARLES TOWN ON-CALL WATER & SEWER GENERAL SERVICES IMPROVEMENTS TO THE CHARLES TOWN WATER TREATMENT PLANT

Jefferson County, West Virginia

Owner/Contact: Charles Town Utility Board
Jane Arnett, Utility Manager
832 S. George Street
Charles Town, WV 25414
jarnett@charlestownutilities.us

Cost: \$200,000 (Fee)

Completion: 2015



Brief Description

Under and on-call engineering services contract for water and sewer related projects, RK&K has provided engineering and construction phase services to implement various improvements to the Charles Town Water Treatment Plant (CTWTP). The CTWTP is a 2.8 mgd conventional treatment plant that includes the following unit processes:

- Raw water intake & pumping
- Rapid Mix
- Chemical Feed
- Coagulation, flocculation, sedimentation,
- Sand filtration, and
- High service pumping



RK&K provided design and construction engineering services for the addition of emergency back-up generators at the water treatment plant and raw water intake pumping station and also expanding the flocculation and sedimentation basin for bringing the water treatment plant into compliance with State Health Department requirements. RK&K designed new facilities to increase the settling time and expanding the chlorine contact time as well as incorporating new high service pumps into the overall process.

Specifically, this project included the following improvements:

- ✓ The construction of a new flocculation and settling basin meeting State Health Department requirements.
- ✓ The construction of additional chlorine contact tankage for meeting State Health Department requirements.
- ✓ The replacement of the existing high service pumps with new pumps for transferring water from the existing chlorine contact tank to the new chlorine contact tank.
- ✓ The construction of a new high service booster pump station adjacent to the new chlorine contact tank.



**ON-CALL GENERAL ENGINEERING SERVICES
TOWN OF MOUNT AIRY WATER STATION NO 2
*Mount Airy, Maryland***

Owner/Contact: Town of Mount Airy
Bernard Quinn
110 S. Main Street
Mount Airy, MD 21771
bquinn@mountairymd.org

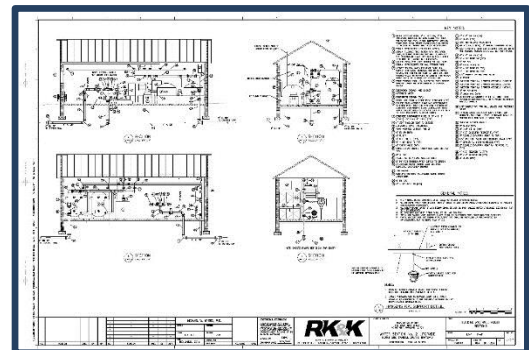
Completion: Ongoing



Brief Description:

Under an on-call general engineering services contract with the Town of Mt. Airy, RK&K provided design services and prepared contract documents for the replacement of the Town's existing Water Station No. 2 located in the vicinity of Cottonwood Avenue and MD. Rte 27.

Water Station No. 2 is currently supplied from two wells having an existing nominal capacity of approximately 200,000 gallons per day (gpd). The Town desires to replace the existing Water Station No. 2 due to the condition and age of the existing facility and the desire to expand the treatment capacity to 350,000 gpd. The proposed work includes construction of a new treatment facility which includes the following major treatment process.



The proposed work includes construction of a new treatment facility which includes the following major treatment process.

- Chemical storage and feed equipment for:
 - Sodium Hypochlorite (NaOCl) for disinfection and distribution system residual
 - Sodium Fluoride (NaF)
 - Sodium Hydroxide (NaOH) (Caustic Soda) for pH control
- Ion exchange for Nitrate removal
- Ion exchange for softening

In addition, the new facility will include VFD controlled High Service Pumping, operator station and laboratory, emergency diesel backup generator, improved site access and security, and automated control and remote monitoring.

One of the major challenges of this project was the need to construct the new facilities within the existing small site footprint while keeping the existing facility in service during construction.

The existing treatment building will be demolished after the new treatment building is constructed and operational. Because the existing WS#2 houses Well #5, a new well house enclosure will be constructed over Well #5 after demolition of the treatment building.

GIBSON ISLAND WATER TREATMENT PLANT UPGRADES*Anne Arundel County, Maryland*

Owner/Contact: Anne Arundel County Department of Public Works
Bruce Wright
2660 Riva Road, Third Floor
Annapolis, MD 21401
bwright@aacounty.org

Cost: \$127,000 (Fee)

Completion: 2011

**Brief Description:**

The Gibson Island Water Treatment Plant (WTP) was originally constructed in the early 1950's to supply drinking water to the inhabitants of Gibson Island. Since its original construction, the plant has undergone only one major upgrade in the late 1970's to increase treatment capacity and install a new filter and control building. Today, the Gibson Island WTP has a treatment capacity of 0.3 mgd which appears sufficient to meet maximum day demands within the foreseeable future.

The Gibson Island WTP consists of two deep ground water wells, aeration, chemical addition, mixing and sedimentation, followed by filtration through greensand pressure filters. In addition, there are onsite facilities for handling and storage of removed solids. The function of the WTP is to oxidize and remove high levels of iron and manganese to within secondary maximum contaminant levels (MCLs) as established by EPA.

The Gibson Island WTP experienced occasional iron breakthrough on the filters on high flow days. It is anticipated that these breakthrough events are likely the result of poor filter performance combined with inefficient filter backwash cycles.

In addition to replacing the media inside each filter, the following upgrades were performed as part of this project:

- Replace the high service pumps and filter control piping to improve hydraulics and automate backwash cycles.
- Demolish the existing chemical feed building and provide a new building at or near the same location.
- Evaluate and design structural repairs to Sedimentation Basins 1 & 2 and the Decant Pump Station.
- Provide backup power generation through the installation of either permanent or mobile diesel generator.
- Provide plant electrical improvements including a new MCC.
- Evaluate and install new instrumentation and control equipment.
- Repair and stop ongoing erosion on the hill behind Sedimentation Basin #2 and leveling the ground in this area to allow improved access around the structure.
- Paint the entire facility for both aesthetics and corrosion control.



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