POTESTA

Engineers and Environmental Consultants

EXPRESSION OF INTEREST

Prepared for the

West Virginia Division of Natural Resources
Reeds Creek State Fish Hatchery
Raceway and Piping Repairs

Providing Innovative, Timely, Cost-effective Engineering Solutions

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Project No. 0102-17-0387 / November 7, 2017

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EXPRESSION OF INTEREST

WEST VIRGINIA DIVISION OF NATURAL RESOURCES
REEDS CREEK STATE FISH HATCHERY
RACEWAY AND PIPING REPAIRS

1.0 INTRODUCTION AND PROJECT NEED

Potesta & Associates, Inc. (POTESTA) proposes to provide professional engineering services to West Virginia Division of Natural Resources (WVDNR), Parks and Recreation Section to provide a plan for necessary repairs to raceways and piping systems at Reeds Creek State Fish Hatchery (Reeds Creek) located in Franklin, West Virginia. POTESTA's engineers have decades of experience designing successful waste water treatment facilities that allow for reduced maintenance and improved outcomes. POTESTA's aquatic biologist has over 30 years of operational and project management experience pertinent to hatchery production. POTESTA has the necessary experience and qualified personnel to efficiently implement an optimal repair plan in a timely, cost effective manner. POTESTA's client centric approach will provide a direct line of communication with the WVDNR and Reeds Creek personnel throughout the project.

2.0 CORPORATE BACKGROUND

POTESTA is an engineering and environmental consulting firm headquartered in Charleston, West Virginia with additional offices are in Morgantown, West Virginia and Winchester, Virginia. The firm was founded in 1997 by Mr. Ronald Potesta, a former director of the West Virginia Division of Natural Resources. The POTESTA organization includes an experienced mix of engineers, environmental scientists, an aquatic biologist, and professional support personnel with the ability to efficiently provide the required consulting services needed under this contract. We have civil, environmental, geotechnical, mechanical, mining engineers and an economist on staff.

Current POTESTA Project at Buller Hatchery, Marion, VA

3.0 QUALIFICATIONS AND EXPERIENCE

3.1 Personal Experience Completing Similar Projects

POTESTA has a team of qualified engineers, scientists, and support personnel and will be led by and work under the project manager, Mr. Terry Moran, PE. Mr. Moran has over 25 years of experience successfully completing water and wastewater engineering projects in a timely manner within budget. Mr. Moran will work closely with POTESTA's aquatic biologist, Mr. Dan Miller, Ph.D., for this contract. Dr. Miller has over 30 years of successful operational and managerial experience that includes commercial, research and educational priorities. Dr. Miller has designed, assessed, modified, managed and trained personnel for a variety of production scenarios: from flow through to 98 percent recirculating facilities. His knowledge of biosecurity options and the importance of regular training and educational updates make him a critical component of our team.

Dan Miller, Ph.D. (Aquatic Biologist) and WVDNR Staff Inspect a Quiescent Zone Drain at the Reeds Creek Hatchery

Mr. Moran and Dr. Miller are currently working on a similar project at the Buller Hatchery (Buller Facility) and Aquatic Wildlife Conservation Center (AWCC) in Marion, Virginia, for the Department of Game and Inland Fisheries (DGIF). The Buller Facility was constructed from 1950 to 1957 and has been used to produce warmwater fish and selected coldwater fish. The facility utilized gravity fed river water from a dammed section of the South Holston River and a small artesian spring source. The site contains 30 earthen ponds (25.21 surface acres in total) of varying sizes from 0.2 to 4.8 acres. Only 11 ponds totaling 13.79 acres are being used for rearing purposes at this time. The AWCC was established in 1998 at the Buller Facility for the propagation of mussels to help increase the number of endangered species for restoration back into the streams and rivers of southwest Virginia.

3.1.1 Current Work at Buller Hatchery and Aquatic Wildlife Conservation Center

POTESTA was retained to develop a preliminary engineering report (PER) for the future production goals of the Buller and AWCC which include the following topics:

- AWCC indoor design work space.

- Sustainability: Use of Recirculating Aquaculture Systems (RAS) at various locations onsite.
- Facilities: Evaluation of buildings, labs, roads, and bridges.
- Predation control for trout raceways, AWCC, and ponds.
- Geotechnical and soil evaluation for sub-grade support of liners/sourcing of materials and liner.
- Visitors Center: Education and control of visitors (biosecurity).
- Water management.
- Inlet screen.
- Utility systems.
- Regulatory compliance.
- Evaluation and recommendations for operational efficiencies.
- Wastewater treatment (WWT) options include examination of a clarifier versus ponds.

- Additional WWT efforts for trout production include:

  1. Sizing treatment units based on hydraulic loading, solids flux, etc.
  2. Preparing schematics of two wastewater treatment plant options.
  3. Preparing preliminary opinions of probable construction costs for the two options.
  4. Preparing estimates of incremental operation and maintenance costs for the two options.

3.2 Similar Past Projects

POTESTA's team of engineers and scientists have extensive experience in aquaculture, civil, and environmental engineering projects. POTESTA's engineers understand the biological consequences of design. This deep knowledge base uniquely qualifies POTESTA to effectively complete this project for WVDNR. Examples of similar past projects completed by POTESTA personnel include:

Mountaineer Trout Farm, Raleigh County, West Virginia

Project Description: The Mountaineer Trout Farm was tasked with reducing solids from a series of parallel raceways for commercial production of rainbow trout in order to meet National Pollutant Discharge Elimination System (NPDES) limits. Regulatory discharge limits were threatening production levels.

✔ Dr. Miller provided an evaluation of the feed management and farm operations which led to two options that allowed for early solids removal which reduced total suspended solids (TSS) at the discharge. A settling pond and composting area were included in the recommendations.

High Tech Fisheries, Uniontown, Pennsylvania

Project Description: High Tech Fisheries was plagued with continual disease problems causing low survival in all of the 200-gallon tanks in a 98 percent recirculating system. This was an indoor ornamental tropical fish farm utilizing three independent modules connected to municipal water and sewer.

✔ Dr. Miller modified biosecurity protocols after interviewing owners and workers keeping production goals in mind. Large ultraviolet (UV) units and a quarantine tank were installed to control disease.

Trout Lodge and Anglers Resort, Monroe County, West Virginia

Project Description: Trout Lodge and Anglers Resort wanted to increase production and was unable to acquire more water flow in the raceways.

✔ Dr. Miller helped design a custom set of low head oxygenators for the upper levels of the raceway system which allowed an increase in stocking densities and improved production. His recommendation for demand feeders over the raceways reduced the labor needed for feeding the trout.

Dogwood Lake Aquaculture Site, Monongalia County, West Virginia

Project Description: West Virginia University developed an aquaculture research and demonstration facility on an acid mine water treatment plant near Morgantown.

✔ Dr. Miller was responsible for the production, research and maintenance of the facility. This included training undergraduate and graduate students for data collection and daily maintenance. This site has become a private trout production facility suppling high quality trout for live stockings.

Center for Great Lake Studies Recirculating Hatchery, Milwaukee, Wisconsin

Project Description: This project required design, assembly and testing of a 10,000-gallon recirculating tank for research. The biofilter design was a sand based fluidized bed reactor and was sized for intense feeding. Options for ozone and UV were included. Personnel training for operation included biosecurity measures and feed management evaluation.

✓ Dr. Miller completed the aforementioned tasks.

3.3 Additional Information

3.3.1 Procedure for Communication with Owner

Mr. Dana Burns, P.E., as POTESTA's principal-in-charge he will be responsible for contract management (administration) and shall coordinate and direct all aspects of the project. Day-to-day project activities for this project will be performed under the direction of our project manager, Mr. Terence Moran, P.E. **Mr. Moran, P.E., will be the point of contact to allow clear communication with the WVDNR**. Mr. Daniel Miller, Ph.D., will serve as a "backup" project manager. A written proposal, including a detailed scope of services and an associated manhour and cost estimate, will then be prepared and submitted to WVDNR for review. The project manager will review the proposal with the WVDNR, including a task-by-task discussion of work items and the related costs. Upon the WVDNR's approval of the proposal, the project manager will arrange for the start of project activities. The principal-in-charge will provide the project manager the required staff necessary to complete the project activities, will review the project budget and schedule during performance of the project, and will provide a final QA/QC review of the documents prior to submittal to the WVDNR. The project manager will develop a detailed step-by-step project work plan so that the project activities are completed in a correct manner, within budget, and on time. POTESTA will be available to conduct weekly status reports which may include weekly meetings, memos, or telephone calls with the WVDNR's project manager as required.

3.3.2 Project Budget Control

The project manager will be responsible for monitoring the project budget and keeping the principal-in-charge informed of its status. The project manager will develop a work plan based on hourly rates and tasks to complete the project. POTESTA's staff enters time into POTESTA's InFocus accounting system on a daily and/or weekly basis. POTESTA's project manager can access InFocus at any time, thus allowing a real-time control of project costs.

3.3.3 Project Schedule Control

Direct responsibility for schedule control lies with the project manager. Initially, the project manager will review schedule requirements to see how they can be achieved given the anticipated scope of work and develop a work plan. As the project progresses, the project manager will monitor progress and compare it with the established schedule on a weekly basis keeping the principal-in-charge aware of the schedule's status. In this manner, the principal-in-charge can make staff adjustments to allow the project manager to maintain the project schedule. If circumstances develop that could impact the project schedule, the project manager will contact the WVDNR's project manager to develop a mutually acceptable adjustment to the schedule and/or work plan.

3.3.4 Competent and Acceptable Experience for Project Completion

POTESTA has assembled a team of highly specialized and competent professionals to complete this project for the WVDNR.

Mr. Terence Moran, P.E., senior engineer at POTESTA, will serve as the project manager for the project. Mr. Moran is proposed to be the project manager for this project because he brings extensive experience on water supply/wastewater projects, liner system projects, sampling/flow metering projects, and projects for the State of West Virginia. Mr. Moran received his Master of Science degree with an emphasis in wastewater treatment from West Virginia University. He has also had a perpetual workload in providing bidding and construction phase services for public works projects for the last 15 years. Accordingly, he is well versed in attending pre-bid meetings to present the project and answer questions, administering construction contracts, overseeing construction technicians, reviewing applications for payments, etc. Mr. Moran has over 25 years of experience, and has completed 100+ water supply/wastewater projects, liner system projects, and 15+ projects involving metering and sampling. He has served as project engineer/project manager for approximately 70 projects (contracts) with the State of West

Replacement of Water Line along Route 60

Virginia, including contracts with the West Virginia Department of Environmental Protection, West Virginia Department of Health and Human Resources, and West Virginia Department of Transportation; these projects for the State of West Virginia included projects involving liner systems, water supply systems, wastewater systems, flow metering, and sampling.

Mr. Daniel Miller, Ph.D., is an aquatic biologist with 25+ years of experience in fish and shrimp hatchery management and design. He has successfully completed the design and training of personnel for a research hatchery for the University of Wisconsin; the design, testing, startup and training of personnel for a commercial yellow perch recirculating hatchery for the Chippewa Tribe in Red Lake, Minnesota; and a hydrological and biological survey for a property owned by Milwaukee County. He evaluated the water source and made recommendations for an alternative source of water for a fish hatchery he designed, which supplied fish for the Milwaukee County Park System. This project included the design of indoor tanks and outdoor ponds and had cost considerations. The facility was built with minor field changes and is actively producing fish for stocking today. Dr. Miller is familiar with and has managed biological filters and solid removal filters to improve production at fish hatcheries. He has consulted for trout farms in South Africa, a tilapia farm in Honduras, shrimp farms in Ecuador and the Chinese Central government.

A summary of Dr. Miller's relevant hatchery/farm experience is found in the following table:

Facility	Services				
	Design	Water Source	Training Personnel	System Testing	Waste Management
Trout Lodge and Anglers Resort, Monroe County, West Virginia – Flow Through			✓	✓	✓
Mountaineer Trout Farm, Raleigh County, West Virginia – Flow Through			✓	✓	✓
Dogwood Lake Aquaculture Site, Monongalia County, West Virginia – Flow Through		✓	✓	✓	✓
Red Lake Recirculating Hatchery, Red Lake, Minnesota	✓	✓	✓	✓	✓
Center for Great Lakes Studies – RAS Research Hatchery, Milwaukee, Wisconsin	✓		✓	✓	✓
Great Lakes Research Facility, Franklin, Wisconsin – Flow Through	✓	✓	✓		
Hi Tech Fisheries of Pennsylvania, Uniontown, Pennsylvania – Recirculation			✓	✓	✓
Trout Farm in Cape Region of South Africa	✓	✓	✓		✓
Somicosa Shrimp Hatchery, Anconcito, Ecuador		✓	✓	✓	✓
Aqua Doc's Tropical Fish, Inc., Lakeland, Florida		✓	✓	✓	✓

Mr. Lee A. Yost, scientist at POTESTA, will serve as support staff for this project. Mr. Yost has over five years of freshwater fisheries related experience. Mr. Yost has experience conducting the day-to-day operations related to the raceway system design proposed, as well as providing oversight on a variety of field based projects that focus on fish community structure, growth and reproduction, and overall ecosystem health. He has been involved with projects that identify stressors and limiting factors associated with overall fish community health. He currently conducts population estimates resulting from restoration practices, egg/ovary and tissue analysis for selenium concentrations to determine site-specific water quality criteria, and aids in the management of the fish lab located at POTESTA's corporate office. Mr. Yost has a Bachelor of Science degree in wildlife and fisheries resources from West Virginia University.

Mr. Everett Mulkeen, P.E., staff engineer at POTESTA, will serve as design engineer for this project. Mr. Mulkeen has over five years of civil engineering experience, with a focus on water and wastewater infrastructure. Mr. Mulkeen's experience includes a variety of water resource engineering, geotechnical engineering, and construction field monitoring projects. He has been involved in structural rehabilitation projects that focused on the repair/rehabilitation of walls, foundations, roads, and buildings due to a variety of geotechnical and hydraulic impacts (such as erosive failure, soil settlement, mine subsidence, global stability, and expansive pyritic soil damage). He is currently preparing engineering plans and cost estimates for various improvements at the Buller Fish Hatchery in Virginia. He has completed projects that require both complex technical design and multi-faceted permit applications. Mr. Mulkeen has a Bachelor of Science degree in civil engineering from West Virginia University and a Master of Science degree civil/environmental engineering from Carnegie Mellon University. For this project, he will provide technical design on aspects such as trout raceway investigation/repair, water line testing/repair, and civil site design, as well as development of cost estimates and construction details.

Mr. Dana L. Burns, P.E., Vice President at POTESTA, will serve as principal-in-charge for this project. Mr. Burns has served as the principal-in-charge for all of POTESTA's contracts for engineering services with the State of West Virginia, including those with the West Virginia Department of Transportation, West Virginia Department of Environmental Protection, West Virginia Department of Health and Human Resources, and WVDNR. As such, he understands the resources it takes to complete a project for the State of West Virginia, as well as the requirements of not just the purchasing agency but also those of the West Virginia Department of Administration. Mr. Burns' experience includes over 38 years of civil and environmental engineering and related projects including completing 100+ water supply/wastewater projects, 50+ liner system projects, and numerous sampling/flow metering projects.

Mr. Joe Knechtel, P.E., senior engineer at POTESTA has over 25 years of experience on civil and environmental engineering projects with experience on potable water treatment and wastewater treatment, as well as design of water and sanitary sewer mains, force mains, laterals and sizing of grinder pumps. Mr. Knechtel has experience in working with water and waste water permitting issues associated with development of these treatment systems. Mr. Knechtel has experience as a project manager on numerous civil and environmental projects ranging from erosion and sediment control, floodplain and floodway issues, wetland, environmental industrial permitting, dam

inspections, storm water management, commercial and residential size developments, evaluations and inspections of waste water lagoons, and petroleum secondary spill containment devices. Mr. Knechtel has worked closely with clients and reviewing agencies, such as WVDEP, WVDOH and numerous local reviewing/approval departments (planning/zoning, engineering, public works, utilities, fire marshals, airport authorities, health and soil conservation districts, etc.) for successful approval of each project.

Mr. Chris Grose, LRS, senior engineering associate at POTESTA, has degrees in civil engineering and geological engineering and has over 24 years of experience. His areas of expertise include geological/geotechnical explorations, surface and subsurface hydrology and hydrogeology, and foundation design. Mr. Grose's experience includes the design and evaluation of geotechnical explorations related to earth retention structures, slope stability and engineered fill construction. Mr. Grose has participated in the geotechnical explorations/evaluations for many projects for POTESTA.

Mr. Mark Kiser, P.E., chief engineer at POTESTA, has over 34 years of experience on civil, geotechnical and environmental projects and will serve as senior engineer. His experience includes conceptual site development plans, engineering construction cost estimates, roadway design, site grading plans, pavement designs, stormwater management plan development, utility design (water, sewer, storm sewer), constructability reviews, preparation of contract documents, pre-bid meetings, bid evaluations, and construction management/administration. These projects included various residential and commercial site developments, roadway construction projects, and utility expansion projects for public and private clients.

Mr. Mark Sankoff, P.E., chief engineer at POTESTA, has over 31 years of engineering experience, including over 20 years at West Virginia American Water (WVAW) in the engineering and distribution department. This experience in operations provides clients with a unique blend of engineering and operational knowledge to apply to projects. Mr. Sankoff has experience with intakes and raw water lift stations similar to Reeds Creek Hatchery, has experience in flow measurement devices in water and wastewater treatment plants, both open channel and full pipe metering, along with SCADA controls and automated chemical flow pacing. Mr. Sankoff also has experience in wastewater treatment plants and understands the importance of meeting the discharge requirements in a cost-effective and an operational sustainable manner for the three rivers that are under increasingly difficult wasteload allocations. Mr. Sankoff brings nine years of distribution operational experience in distribution piping and valve repair and replacement for water lines from 2-inch to 48-inch in diameter.

Mr. Pat Taylor, P.E., senior engineer at POTESTA, has over 28 years of experience in water and wastewater including funding coordination, hydrologic and hydraulic analysis, chemical and municipal solid waste disposal and site development. Mr. Taylor has served as Huntington Sanitary Board's engineer since 2008. Mr. Taylor has a Bachelor of Science degree in civil engineering from the University of Florida and a Master of Science degree in engineering management from Marshall University.

Mr. Victor Dawson, P.S., survey supervisor at POTESTA, has 36 years of experience in surveying. Mr. Dawson is a Registered Land Surveyor in West Virginia, South Carolina and North Carolina and specializes in ground control, construction stakeout, topographic mapping, boundary and property surveys including ALTA surveys, construction surveys for layout, record drawings, quantity measurements, courthouse research, location/verification of utilities, preparation of right-of-way plans, and verification of property owners.

4.0 PROJECT AND GOALS

4.1 Goal/Objective 1: Review Existing Plans – Communicate with Owner

POTESTA personnel made a site visit to Reeds Creek Hatchery in October to meet with WVDNR Reeds Creek Hatchery personnel to understand the primary issue(s) to be addressed by this project. From that site visit, POTESTA was able to develop Section 5.0 Understanding the Project. Once the contract is awarded, POTESTA will revisit Reeds Creek Hatchery to gather additional information and further the dialogue with onsite personnel. From this effort, we anticipate preparing our detailed scope of services. POTESTA will work with WVDNR to develop a successful team approach to the project.

4.2 Goal/Objective 2: Provide Necessary Design Services

POTESTA will proceed with the final design and preparation of project specifications for the project once WVDNR has reviewed the preliminary design and we have received comments on the same, and the necessary funding has been obtained. The design can be flexible and POTESTA will adjust the design accordingly as the situation and/or funding may dictate.

Construction drawings and specifications will be prepared for WVDNR and regulatory review and approval prior to advertisement and bidding. POTESTA will prepare a preliminary estimate of probable construction cost broken down by major work items. We routinely track bid tabulations available from entities such as the West Virginia Division of Highways and the Contractors Association of West Virginia so that we have ready "access" to up-to-date unit prices. Separate estimates will be made for each facility. The preliminary estimate will be submitted with a draft submittal of the drawings and specifications. A final estimate of probable construction cost will be prepared and submitted with the draft drawings. The final estimate will be used for evaluation of project costs and subsequent contractor bids.

4.3 Goal/Objective 3: Construction Administration - Observation

After bid evaluation and contractor selection by the WVDNR, POTESTA proposes to complete the following construction administration and observation tasks during construction. The scope of services described below is based in part on terms and requirements of the *Standard General Conditions of the Construction Contract*, prepared by the Engineers Joint Contract Documents

Committee, which has been used for other projects and is assumed to be used as the basis of the contract between the Agency and the contractor.

- Review contract documents, particularly items that were not prepared by POTESTA, such as the agreement, general conditions, supplementary conditions, specification special conditions, and engineering specifications.

- Review, meet, comment on and accept contractor's preliminary (and subsequent adjustments to) progress schedule, preliminary schedule of shop drawing and sample submittals, and preliminary schedule of values (for progress payments).

- Attend pre-construction conference.

- Review underground facilities not shown on contract documents to determine potential changes to contract documents.

- Review substitutes and "or equal" items, and issue written acceptance/denials.

- Review and approve shop drawings and samples (if required), including review of revised shop drawings if necessary.

- Review contractor work plan, if required by specification special conditions.

- Attend progress meetings and as-needed meetings.

Construction Observation Services at Water Line Crossing

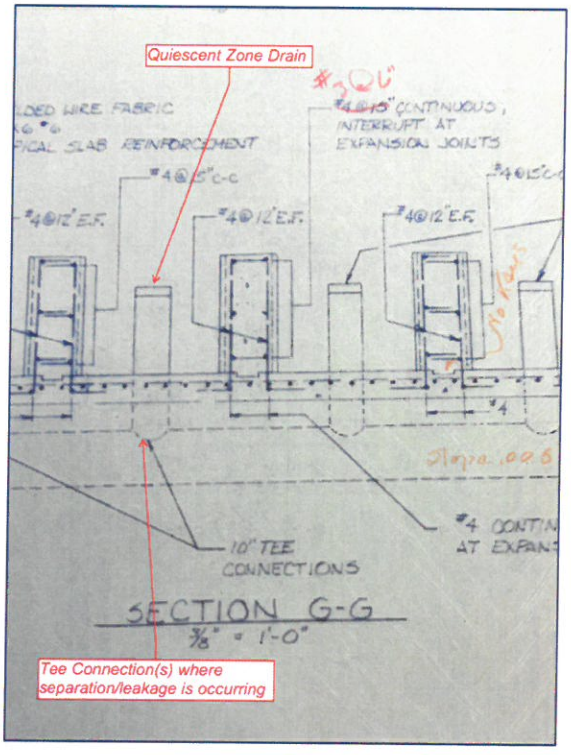
- Issue written clarifications or interpretations of the requirements of the contract documents, including issuance of additional specifications and drawings.
- Provide a nearly full-time representative to observe construction for compliance with the contract documents, and observe testing by the contractor and record results on appropriate forms.
- Prepare weekly reports summarizing construction activities.
- Prepare change orders for the work, including issuance of additional specifications and drawings, if necessary.
- Review contractor invoices (i.e., Applications for Payment) and issue written recommendations for payment or denial.
- Issue Certificate of Substantial Completion to the Agency, as typically required by the contract documents.
- Provide record drawings showing "as-built" features.

5.0 UNDERSTANDING OF THE PROJECT

Dr. Miller and staff engineer, Everett Mulkeen, P.E. of POTESTA, made a site visit to the Reeds Creek Hatchery to further understand the needs of WVDNR. Based on discussions with WVDNR Reeds Creek staff, POTESTA understands the primary issue(s) to be addressed by this project are as follows:

5.1 Raceway Drain Investigation/Repair

- To an unknown extent, the vertical quiescent zone drains are leaking (via faulty tee connections between standpipe and underdrain manifold, both constructed of asbestos-cement/transite (ACP) pipe) as pictured below. Over time, via flushing of gravel fines and erosive action, this leakage has created significant void space underneath portions of the concrete raceway floor slabs.



Construction Detail of Quiescent Zone Drains at Reeds Creek Hatchery (with notes by POTESTA)

- During a recent investigation, Reeds Creek staff excavated and inspected the area below one of the lower raceway series to discover a void space of approximately 16 inches in depth and extending approximately 8 feet in the upstream direction (as measured from underdrain).

- During a recent site visit, POTESTA confirmed via camera inspection that there is significant separation at the tee connections present in several of the raceways' drains.

5.2 Leaking Tee Connection Issues

The leaking tree connections present the following issues:

- The creation of void space below the raceway floor slab may threaten the structural integrity of the raceway. The "undercutting" effect of this void space has the potential to lead to cracking/fracturing of the raceway structure, which could lead to further significant leakage and/or or catastrophic failure of the raceway structure(s).

- Due to significant increase in localized groundwater, due at least in part to leaking tee connections, the basement of the pump building experiences constant flooding (via water flowing in from outside the basement via a sump drain).

- Reeds Creek Hatchery is a recirculating aquaculture system, and loss of water can significantly impact water quantity and the ability to provide the freshwater needed to continue operations during dry periods.

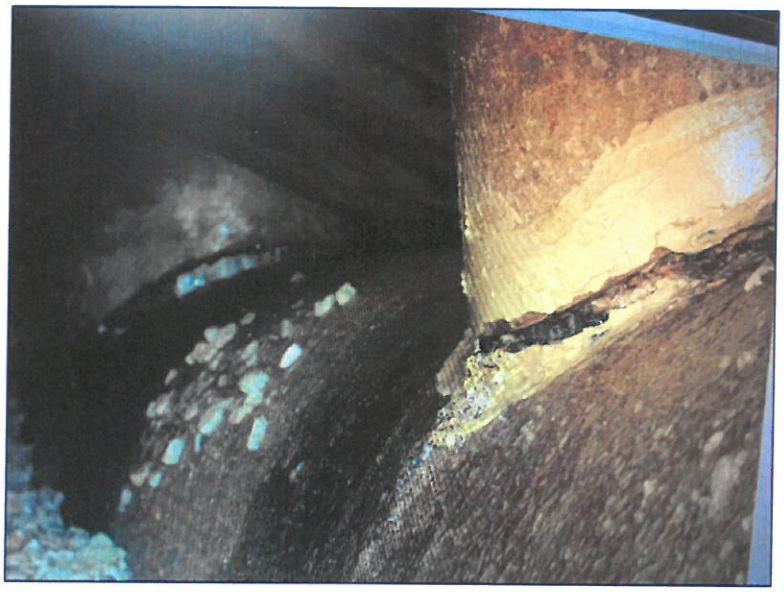
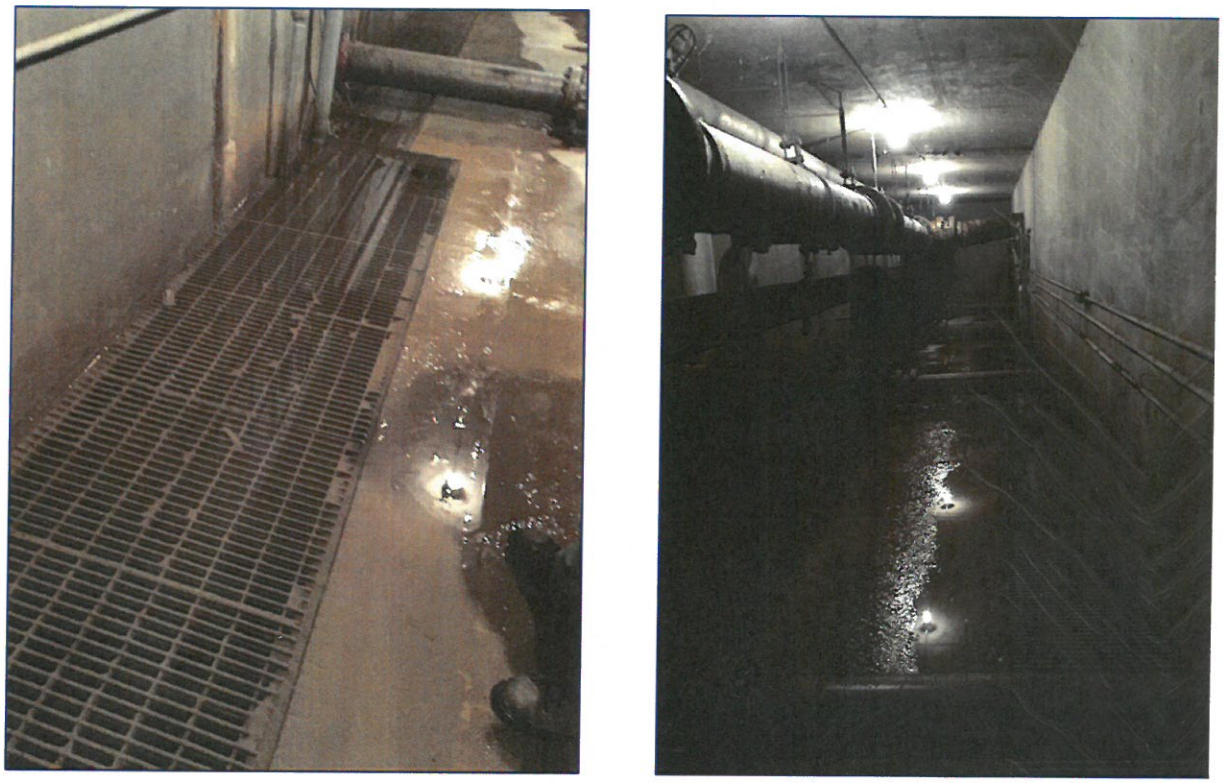


Image Illustrates Separation of Asbestos-Concrete (Transite) Pipe Tee Connections Below Reeds Creek Raceways

5.3 Intake Lines

- Potential leakage of intake water lines near nursery building.
- Based on input from WVDNR staff, it is possible that the intake lines (that lead from Reeds Creek Spring to the nursery building) are experiencing significant leakage.
- WVDNR staff have observed settlement and damage to the concrete pavement between the raceways and the nursery building that they expect to be related to this issue.

A clear understanding of the issues will help POTESTA develop an effective strategy and work plan to alleviate the issues.



Flooded Sumps in the Basement of the Reeds Creek Pumping Building

6.0 CLOSING

We look forward to working with the WVDNR and Reeds Creek Hatchery on engineering services to provide a plan for necessary repairs to the raceways and piping systems. We are available to meet to answer questions you may have or to discuss your needs in more detail.

The trout production from Reeds Creek Trout Hatchery is coordinated with the other cool water state hatcheries. POTESTA personnel have the ability to offer an assessment of the biological filter with options to improve the ammonia conversion capacity. In addition to this option, POTESTA can provide a design for custom low head oxygenators (LHO) which may increase the available oxygen levels by 50 percent. This will allow for increased trout production without additional water and without major construction.

POTESTA has the necessary experience in-house to complete all the services anticipated under this contract. Our professional staff has the training, expertise, and experience required to completely fulfill this contract. POTESTA will assign adequate personnel to complete work in a timely and cost-efficient manner.

State of West Virginia
Expression of Interest

Procurement Folder : 379130

Document Description : Addendum No. 01 A/E Services for Reeds Creek Fish Hatchery

Procurement Type : Agency Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version	Phase
2017-11-03	2017-11-07 13:30:00	AEOI 0310 DNR1800000003	2	Final

SUBMIT RESPONSES TO:	VENDOR
BID RESPONSE DIVISION OF NATURAL RESOURCES PROPERTY & PROCUREMENT OFFICE 324 4TH AVE SOUTH CHARLESTON WV 25303-1228 US	**Vendor Name, Address and Telephone** Potesta & Associates, Inc. 7012 MacCorkle Avenue, SE Charleston, West Virginia 25304 (304) 342-1400

FOR INFORMATION CONTACT THE BUYER
Angela W Negley
(304) 558-3397
angela.w.negley@wv.gov

Signature X Dana L. Burns **FEIN #** 311509066 **DATE** November 7, 2017

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

State of West Virginia
Expression of Interest

Procurement Folder : 379130

Document Description : A/E Services for Reeds Creek Fish Hatchery Repairs

Procurement Type : Agency Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version	Phase
2017-10-03	2017-11-07 13:30:00	AEOI 0310 DNR1800000003	1	Final

SUBMIT RESPONSES TO:	VENDOR
BID RESPONSE DIVISION OF NATURAL RESOURCES PROPERTY & PROCUREMENT OFFICE 324 4TH AVE SOUTH CHARLESTON WV 25303-1228 US	**Vendor Name, Address and Telephone** Potesta & Associates, Inc. 7012 MacCorkle Avenue, SE Charleston, WV 25304 (304) 342-1400

FOR INFORMATION CONTACT THE BUYER
Angela W Negley
(304) 558-3397
angela.w.negley@wv.gov

Signature X Dana L. Burns **FEIN #** 311509066 **DATE** November 7, 2017

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

GENERAL TERMS AND CONDITIONS:
West Virginia Division of Natural Resources
Agency Delegated Procurements Over $25,000

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Terence C. Moran, PE, Project Manager
(Name, Title)
Terence C. Moran, PE, Project Manager
(Printed Name and Title)
7012 MacCorkle Avenue, SE, Charleston, WV 25304
(Address)
(304) 342-1400 / (304) 343-9031
(Phone Number) / (Fax Number)
tcmoran@potesta.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated 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.

Potesta & Associates, Inc.
(Company)

Dana L. Burns Dana L. Burns, PE, Vice President
(Authorized Signature) (Representative Name, Title)

Dana L. Burns, PE, Vice President
(Printed Name and Title of Authorized Representative)

November 7, 2017
(Date)

(304) 342-1400 / (304) 343-9031
(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: AEOI 0310 SNR1800000003

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)

- [X] Addendum No. 1
- [ ] Addendum No. 2
- [ ] Addendum No. 3
- [ ] Addendum No. 4
- [ ] Addendum No. 5
- [ ] Addendum No. 6
- [ ] Addendum No. 7
- [ ] Addendum No. 8
- [ ] Addendum No. 9
- [ ] 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.

Potesta & Associates, Inc.
Company

Dana L Burns
Authorized Signature

November 7, 2017
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

TERENCE C. MORAN, P.E.
Senior Engineer

EDUCATION

M.S. Civil Engineering, 1989
West Virginia University

B.S. Civil Engineering, 1987
West Virginia University

EMPLOYMENT HISTORY

1999-Present	Potesta & Associates, Inc.
1989-1999	GAI Consultants
1987-1989	West Virginia University
1985-1987	West Virginia Division of Highways (summers)

PROFESSIONAL REGISTRATION

Professional Engineer – West Virginia, Virginia

PROFESSIONAL CERTIFICATION

Troxler Moisture-Density Gauge
American Red Cross Standard First Aid and CPR
OSHA 40-Hour Hazardous Waste Worker Training

AREAS OF SPECIALIZATION

Water and wastewater engineering and permitting; preparation of studies, design calculations, drawings, technical specifications, and cost estimates; bidding phase services; and construction phase services, including construction administration.

PROFESSIONAL EXPERIENCE

Water Lines, Water Storage Tanks, and Water Treatment Plants

Project Manager/Project Engineer for more than 70 water supply projects involving design and, permitting of water treatment facilities, water line extensions, water storage tanks, booster stations, chlorine boosters, pressure reducing valve stations, service connections and providing fire flow demands. Tasks include client/contract management; mapping development; hydraulic design; geotechnical investigations; preparation of drawings, specifications, and cost estimates; and preparation of Bureau of Public Health, Public Lands Corporation, United States Army Corps of Engineers, West Virginia Division of Highways, and NPDES permit applications.

- Projects funded by federal, state and private funding including small cities block grant, United States Department of Agriculture, Rural Economic Development Agency, Drinking Water Treatment Revolving Fund (DWTRF), West Virginia Infrastructure and Job Development Council, Congressional Supplemental Appropriations (SAP), Abandoned Mine lands, United States Army Corps of Engineers, Governor's office funding, county commissions and private funding.

West Virginia Bureau for Public Health (Region III and Region VI Planning and Redevelopment Councils) – Project Manager for 5 contracts for source water protection:

- Source water reports for 133 public water systems
- Preparation and presentation of state-wide source water awareness symposiums
- Source water assessment and protection plan reports for 68 public water systems
- Engineering study for contingency planning for public water systems

Town of Ceredo – Project Manager for 20,000 feet of water line replacement, water tanks, telemetry, and booster stations.

Boone County Public Service District – Project Manager for 15+ water supply extension projects in Boone County District from 2004 to present. Included were Preliminary

Engineering Reports (PER), and design bidding and construction phase tasks.

Project Manager for Mill Creek Regional Water Supply Extension Project. Design included 34 miles of waterline, booster stations, tanks, and a water treatment plant. Included design of storm water ditches and culverts, and crossings of a railroad. Approval was obtained from CSX Transportation, WVDOH, PLC, USCOE, and West Virginia Bureau for Public Health. Deliverables included drawings, specifications, and cost estimates.

- West Virginia Division of Environmental Protection
- Logan County Public Service District

West Virginal American Water – Project Manager for construction administration/monitoring for the Poca River Road Waterline Extension Project; Cabell County Waterline Extension Project, Contract No. 7; Spite Road Waterline Extension Project; and Fisher Ridge Waterline Extension Project. Work included construction monitoring, preparation of weekly reports, review of contractor submittals, review of contractor invoices, and preparation of record drawings for 100,000+ linear feet of waterline extensions.

City of Philippi – Project Manager for municipal water system upgrade project. Work included design of two replacement booster stations, two new water storage tanks, new pumps for an existing booster station, a 1,500-foot waterline extension, and telemetry systems. Drawings, specifications, and a cost estimate were prepared.

West Virginia American Water – Design of main line pressure reducing valve and vault for the Glenwood Avenue Extension of the Cabell County Waterline Extension Project, Contract No. 6. Work included hydraulic sizing and preparation of drawing.

West Virginia American Water – Design, permitting, bidding and contract documents, and construction phase services for residuals handling facility at largest water treatment plant in West Virginia, including 1,000,000 gallon gravity thickener, sludge pumping stations, two belt filter presses, and a plate settler.

West Virginia Department of Environmental Protection – Project Manager/Project Engineer for design of multiple waterline extension in West Virginia. Included was design of six water storage tanks, five booster stations, pressure reducing valves, master meters, and telemetry systems. Work included surveying, subsurface explorations, hydraulic design, preparation of drawings, specifications, cost estimates, and permit applications, and assistance with bidding. Representative projects included:

- 10-Mile-South Putnam Water Supply Extension Project in Lincoln and Putnam Counties;
- 5-Mile-Cline Hollow, Younger Drive, Left Hand Fork of Lens Creek, and Emmons-Grippe Water Supply Extension project in Kanawha County;
- 2.5-Mile Godby Branch Water Supply Extension Project in Logan County;
- 20-Mile Cow Creek-Sarah Ann Water Supply Extension project in Logan County;
- 8-Mile Cassity Fork Water Supply Extension project in Randolph County; and
- 10-Mile Olive/Marshville/Catfish Hollow Water Supply Extension project in Harrison County

Tucker County Development Authority – Project Engineer for design of approximately 10,000 feet of water line and sewer line to serve an industrial park, including a lift station. Drawings, specifications, and a cost estimate were prepared. Also performed construction administration services.

West Virginia Davison of Environmental Protection - Project Engineer for preparation of conceptual design and cost estimate for the Mill Creek – Isom Community (Logan County Public Service District) Water Supply Extension Project.

West Virginia American Water – Evaluation of water treatment plant and water distribution system, including observation of system during site visit, records review, discussions with regulatory officials, and issuance of findings in a report for the Town of Pineville.

West Virginia Division of Environmental Protection – Project Manager for technical review of the Gauley River Area Waterline Extension proposed by the Gauley River Public Service District and the Heizer/Manilla Creek Waterline Extension proposed by West Virginia American Water. Included hydraulic analysis, evaluation of line size, review of drawings and specifications, and reporting on the evaluation in letter format.

City of Philippi – Relocation of waterlines due to proposed roadway. Relocation included approximately

4,000 feet of 1-inch to 12-inch diameter pipe, fire hydrants, meters, and valves. Prepared construction drawings, specifications, and quantities.

Short Line Public Service District/Harrison County Planning Commission – Project Manager for feasibility/rates analysis study for the proposed Reynoldsville, Wallace, and Clarksburg Water Supply Extension Project. Included evaluation of six options at multiple loan/grant funding scenarios.

West Virginia American Water – Hydraulic analysis for water supply extensions (total of 23 miles) in Cabell County, West Virginia, including line sizing and design of booster station and PRVs.

West Virginia Division of Environmental Protection – Project Manager/Project Engineer for numerous conceptual waterline designs for 20 unserviced areas (between 1991 and 2007) in coal mining areas in West Virginia. Included hydraulic evaluation, booster station, and water storage tanks sizing, waterline sizing, and estimation of construction cost. Work completed in Barbour, Boone, Brooke, Fayette, Harrison, Lincoln, Logan, McDowell, Putnam, and Randolph Counties.

West Virginia Division of Environmental Protection – Project Manager for design of booster station upgrade for the Clinton Water Association's Ringgold pump station, including preparation of drawings, specifications, and cost estimate.

West Virginia Department of Energy – Groundwater contamination study for drinking water wells near Cassity, Randolph County, West Virginia, including water supply inventory of over 50 residents, collecting and analyzing well and surface water samples, and researching records to determine the percentage of homes whose water supply had been degraded by acid mine drainage.

Public Utility General – Project Manager for construction administration including preconstruction meetings, shop drawing review, coordination with construction technician team(s), contractor pay application review, public record drawings, and public interface for 15+ water and wastewater utility and/or infrastructure projects including utility line extension and upgrades, construction and modifications of treatment facilities. Clients include municipalities, public service districts, industry, county development authorities and private utilities. Construction included water and sewer lines, booster stations, tanks, lift stations, vacuum sewer stations, treatment basins, dewatering equipment, clarifiers, chemical fee systems, buildings associated with treatment systems, outfall modifications, and diffusers.

Mingo Logan Coal Company – Project Manager for design, building, and permitting services for potable water system at the new Mountain Laurel Mine in Logan County, West Virginia. Project includes booster station, water storage tank, and 10,000 feet of HDPE pipe.

Storage Tanks

Marshall University – Project Engineer for closure, sampling, and remediation activities associated with an UST closure at a new football stadium.

Project Engineer for sampling associated with an underground storage tank removal at a site in Harrison County, West Virginia.

West Virginia Division of Environmental Protection – Project Engineer for sampling associated with two abandoned underground storage tanks at a former mine site in Harrison County, West Virginia.

Goldman Associates – Project Engineer for closure, sampling, and remediation activities associated with an UST closure at a commercial establishment.

Contamination assessment for a national coal company for leaking UST at a coal facility in southern West Virginia, including multiple aquifer well installations, preparation of corrective action plan, and subsequent installation of air sparging system and oil/water separator.

West Virginia Department of Natural Resources – Contamination assessment for leaking underground storage tanks at the Rite Way Packette site in Jesse, West Virginia.

Project Engineer for excavation and off-site disposal of contaminated soil associated with a UST gasoline leak at a coal preparation facility in Kentucky.

Plasma Processing Corporation – Preparation of an underground injection control (UIC) permit application for a secondary aluminum facility.

DANIEL J. MILLER, PH.D.

Senior Scientist

EDUCATION

Ph.D.	Resource Management, 2008 West Virginia University
M.A.	Aquaculture, 1987 Auburn University
B.S.	Zoology/Fisheries, 1981 University of Wisconsin

EMPLOYMENT HISTORY

2011-Present	Potesta & Associates, Inc.
1999-2011	West Virginia University
1994-Present	Miller Consulting Associates, Inc.
1987-1993	Shrimp Farm Manager, Ecuador
1986	Researcher, US Virgin Islands
1982	Israeli Oceanographic & Limnological Research Company
1978-1981	Great Lakes Research Facility

LANGUAGES (FLUENT)

English, Spanish

PROFESSIONAL AFFILIATIONS

Northeast Regional Aquaculture Center: Chair of the Technical Advisory Committee

Rotary International

ABSTRACTS, PRESENTATIONS, AND MANUSCRIPTS

Miller, D. and D'Souza, G. (2009) Plastic Tanks Compare Well to Concrete Tanks in Trout Trial. *Global Aquaculture Advocate*, Vol. 12, Issue 1: 53-54

Miller, D., and D'Souza, G. (2008) Economic Analysis of an Alternative Raceway System. Northeast Regional Aquaculture Center Website: http://nrac.umd.edu/Project Reports.cfm Page 17

Miller, D. (2008) Using Aquaculture as a Post-Mining Land Use in West Virginia. *Journal of International Mine Water Association.* 27(2): 122-126

Borisova, T., G. D'Souza, D. Miller, & W. Labys. (2007) Remaining Competitive at the Regional level: Developing a Local Aquaculture Industry. *J. Aquaculture Econ & Mgmt* 11: 73-98.

2012: Sino-American Technology and Engineering Conference, Anhui Provence, China

2010: Workshop Presenter on Recirculating Aquaculture Systems, Stellenbosch, South Africa

2009: Invited Speaker: China University of Mining and Technology - Post-mining Land Uses, Beijing Campus

2008: American Fisheries Society; World Aquaculture Society; U.S. Trout Farmers Association

2007: VA/WV Water Research Symposium; WV Aquaculture Forum

2006: World Aquaculture Society

PATENTS AND GRANTS

Patent awarded to WVU for Dissertation Research (D. Miller-Inventor) 2010

Provisional Patent (Inventor) Granted to WVU Followed by Non-Provisional Patent Application in 2008

Grants: U.S.D.A.: $74,000 - Mine Site Aquaculture Development

U.S. Department of Commerce: Water Treatment Demonstration Project at Mine Discharge Site

McDowell County Economic Development Authority: Mine Site Demonstration Project

Eastern Associated – Tygart River Mine: Recreational Use of the Guyses Run Site\

Eastern Associated – Robin Hood #9: Flow Study and Fish Demonstration Project

WV Division of Tourism: Fee Fishing Brochure Development and Distribution (2003, 2004, 2006)

AREAS OF SPECIALIZATION

Business and project development; water resource management and evaluation; recirculating Aquaculture System (RAS) design, training, and management; aquatic biosecurity procedures; pond management and design; and project management.

Environmental services, including discharge monitoring reports; water quality analysis; stream bioassessment surveys and reports; stream characterization; system design and management; groundwater inventory; and NPDES permit compliance support for industry. Aquaponic research producing tilapia, tomatoes, and lettuce.

Development of alternative post-mining land uses utilizing aquaculture. Identification of fish production sites.

PROFESSIONAL EXPERIENCE

Mining

Development of alternative post-mining land uses utilizing aquaculture.

Conducted a ground water inventory for a 6,000 acre underground mine in southern PA.

Eastern Associated Coal Corp – Envisioned and supervised the transformation and development of acid mine treatment plant into Marion County's Guyses Run Fishing Park.

Design and development of a Boone County trout production facility, saving the mining company over $450,000 in reclamation costs.

Peoples Republic of China: Sino-American Technology and Engineering Conference (SATEC) – Invited expert to advise the Central Government on post-mining land uses in Anhui Provence. Speaker in Anhui Provence presenting research on mine reclamation.

Biological Studies and Sampling

Identification of fish production sites.

Conducted monitoring and sampling for a 3,500 gpm reverse osmosis water treatment plant during a 72-hour quality performance test.

Set-up and oversight of recirculating fish/hydroponic system for class demonstrations.

US Agency for International Development – Consultant in South Africa for evaluating recirculating aquaculture potential in the Cape Region. Presented research and conducted training at recirculating aquaculture conference at Stellenbosch University.

Atlantic Sapphire – Researched 12 sites in three states for site selection for a recirculating Atlantic salmon production farm.

Red Lake Tribal Hatchery – Planning, design, set-up, and training of personnel for a yellow perch recirculating grow-out facility at the Red Lake Tribal Hatchery in Red Lake, Minnesota. Responsibilities included assembly, training of personnel and stocking the system with yellow perch.

As Shrimp Farm Manager at Deli Shrimp Company in Guayaquil, Ecuador:

- Managed a group of companies which employed 200 people that exported shrimp and redfish to the U.S. and Europe.
- Directed operations for 1,500 acres of marine shrimp pond production and 500 cubic meters of larval production.
- Approved expenses and directed research studies on shrimp and redfish at laboratory and farm levels.
- Research was continuous yet secondary to production goals.
- Disease diagnosis was implemented and used as an integral part of management as the quality of the water in the Guayas estuary deteriorated.
- Programmed stocking, transfer, harvest, and exportation of shrimp.

- Exceeded 2 million pounds of production in final year.

ICASUR S.A., *Aquacultura Fonseca S.A.*, and *CODISUR S.A.* Annual Visits – Providing technical assistance to three marine shrimp farms and a tilapia farm in Honduras.

Great Lakes Water Institute (University of WI) – Design, set-up and training of personnel for a 10,000-gallon recirculating research unit for the University of Wisconsin-Milwaukee.

University of Wisconsin – Provided a report on hatchery design and expansion at House of Correction in Franklin, Wisconsin. Included hydrological survey, water reuse options, and pond and tank design. Biological survey of existing pond with recommendations for improving water quality. The hatchery was constructed with minor changes from the initial report.

High Tech Fisheries:

- Directed the management and marketing of a 95 percent recirculating freshwater ornamental fish hatchery.
- Spawning research on the Neon Tetra (*Paracheirodo innesi*).
- Determined the reason for poor spawning results, allowing for domestic production to commence.

As Mariculture Laboratory Assistant for Israeli Oceanographic and Limnological Research Co. in Elat, Israel:

- Assisted in the construction of sea rafts, cages, and larval tanks.
- Bioassayed sea bream and mullet gonads for hormone/reproduction experiments.
- Feeding and harvesting of sea bream in sea cages and mullet in experimental ponds.
- Conducted a biological survey of an underwater reef area.

Research

Instructor of undergraduate and graduate level courses at West Virginia University.

Development of distance education course work.

Supervised research and trained West Virginia University students at the Dogwood Lake Aquaculture Research facility.

Conducting demonstration projects and research to improve sustainability for fish farmers and disseminating the information to producers.

GIS

Creating and managing GIS databases and maps for presenting and analyzing information.

LEE A. YOST
Scientist I

EDUCATION

B.S. Wildlife & Fisheries Resources, 2012
West Virginia University

EMPLOYMENT HISTORY

2013-Present	Potesta & Associates, Inc.
2013	West Virginia Bunrootis, LLC.
2012	West Virginia Department of Environmental Protection
2009 - 2011	West Virginia University

TRAINING/RELEVANT COURSE WORK

May 2015 - River Assessment & Monitoring (Rosgen III)
National Conservation Training Center

April 2015 - River Morphology & Applications (Rosgen II)
National Conservation Training Center

April 2015 - Applied Fluvial Geomorphology (Rosgen I)
National Conservation Training Center

March 2015 & April 2014 - Eastern Kentucky
Macroinvertebrate Collection Training

November 2014 - Swamp School
Wetland Delineation & Regional Supplement Training

November 2013 - Fish Identification
National Conservation Training Center

AREAS OF SPECIALIZATION

Watershed approach to stream and wetland investigations/delineations throughout West Virginia. Utilizing protocols outlined in the WVDEP Watershed Assessment Branch (WAB), KYDOW Standard Operation Procedures (SOP) and USEPA Rapid Bioassessment Protocols (RBP) to complete benthic macroinvertebrate and freshwater fish surveys in West Virginia and Kentucky. Scientific collection permit holder in both WV and KY to date.

PROFESSIONAL EXPERIENCE

Biological Studies and Sampling

Collection of benthic macroinvertebrate utilizing Kicknet and D-Net methodologies in both West Virginia and Kentucky. Samples were collected to monitor stream health, assess narrative monitoring locations for NPDES permit renewals, classify stream type, assess post construction impacts, determine benthic community composition in lentic systems, used WVSCI along with RBP and HGM to establish proper stream restoration goals, and monitored benthic community composition (EPT taxa, Chironomidae, etc.) dominance to determine restoration success.

Performed fish surveys utilizing seine nets, and backpack electro-shocker (Smith Root LR-24) throughout West Virginia. Data was collected to determine population estimates (depletion and mark recapture methodologies), species composition/diversity, measure specimen fat content/ health (Bioelectrical Impendence Analysis), diet composition (Gastric Lavage), and/or selenium tissue analysis (modified protocol from both West Virginia and Kentucky). Identified to species level classification, and performed field length (Total, Fork, and Standard) and weight measurements.

Monitor growth and development of freshwater fishes in Aquaculture raceway system. Monitored feed responses under different temperature conditions, completed quarterly population estimates and yield calculations, harvested and processed fish to be sold at the Farmer's market and to be distributed to local restaurants in the Morgantown, West Virginia area.

Stream/Wetland Delineation, Permitting, and Mitigation

Conducted wetland and stream delineations for the use of 404 permitting utilizing protocols outlined by the USACE, NCDOW, WVDEP, and USEPA. Delineations included but are not limited to determining stream status (Ephemeral, Intermittent, and Perennial), classification of wetland/upland plants, completing forensic soil classification, determining stream and wetland boundaries, and assessing post construction impacts for clean water act violations to determine the appropriate mitigation ratios.

Proficient understanding of stream sampling techniques including longitudinal profiles, cross sections, bank erosion hazard index (BEHI), near bank stress (NBS), sieve analysis, pebble counts and protrusion measurements, and completion of Pfankuch documentation to determine stream classification and stability.

Proficient understanding of stream channel design processes including but not limited to channel configuration, stream geometry, bankfull and floodplain connectivity, sediment supply and transport, riparian planting plans, and credit generation for stream mitigation purposes.

Surface Water Sampling

Experience collecting surface and stormwater samples for chemical analysis, collecting field water chemistry, measuring discharge and calculating flow. Proficient understanding utilizing YSI 556 and Pro-Plus Multi-Meter, Quanta Hydrolab, Oakton pH/Con 10 Series, Oakton pH 300 series, LaMotte 2020 Turbidimeter, Marsh-Mcbirney flow meter, Hach depth-velocity meter, and Hach Kits.

GIS

Experience using ArcGIS 10.3. Utilization of national databases to complete baseline mapping, land use land cover analysis, digital elevation modeling, historic soil referencing, and implementing of Trimble GPS data for field mapping.

NPDES Industrial/Municipal Permitting

Implemented temperature and level logger to establish baseline conditions and monitored variations through all seasons for NPDES permitting.

ESAs (Phase I and II)

Experience with underground site sampling using Geoprobe. Assessments included classifying soil borings, and collecting soil and ground water samples for Laboratory analysis.

Environmental Compliance

Utilized the Casella CEL 63-X noise recorder to establish baseline conditions and establish noise limits during construction.

Regulatory and Litigation Support

Determining of client's adherence to WVDEP regulation and USEPA consent decree. Field inspected water discharge outlets, stockpiles, belts, and transfer stations to determine if currently matched permitted design.

EVERETT E. MULKEEN, P.E.

Staff Engineer

EDUCATION

M.S. Civil/Environmental Engineering, 2012
Carnegie Mellon University

B.S. Civil Engineering, 2010
West Virginia University

EMPLOYMENT HISTORY

2013-Present Potesta & Associates, Inc.
2010-2011 WVU / U.S. DOE NETL

PROFESSIONAL REGISTRATIONS

Professional Engineer – West Virginia, Maryland, and Pennsylvania

PROFESSIONAL CERTIFICATIONS

Troxler Moisture – Density Gauge

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

HONORS

Summa Cum Laude (M.S.)

Magna Cum Laude (B.S.)

AREAS OF SPECIALIZATION

Biological wastewater treatment design; water and wastewater treatment systems; drinking water system improvements; source water protection plans; geotechnical evaluations; and permitting.

PROFESSIONAL EXPERIENCE

Source Water Protection Plans

Region VI Planning & Development Council – Preparation of source water protection plans (SWPPs) for eight (8) drinking water utilities in Northern WV. Project included development of GIS-based mapping of the Source Water Protection Area (SWPA) and Potential Sources of Significant Contamination (PSSC); forming a source water protection team comprised of local stakeholders; prioritizing PSSCs and developing managements strategies; leading source water protection meetings; preparation of final SWPP; presenting the SWPP at a public forum.

Sewer Lines and WWTPs

Performed plant troubleshooting, permitting, and system upgrade design for operational municipal wastewater plant to increase capacity from 1.8 MGD to 2.5 MGD peak flow.

Secondary clarifier sizing & design, RAS pump station improvements, Orbal Aeration unit improvements, headworks modification & improvements, UV disinfection unit sizing & design, pump sizing, hydro-pneumatic tank sizing & piping design, flow metering/monitoring system design, pipe & valve sizing/layout, incorporation of variable frequency drive pumps (VFD) into existing plant pump system, hydraulic analysis, and geotechnical analysis & recommendations for concrete clarifier basin

Responsible for permitting, hydraulic design & analysis, and geotechnical exploration & recommendations for multiple installations of wastewater effluent diffusers at chemical manufacturing facilities.

Storage Tanks

Columbia Gas Transmission, Swanson Industries, Morgantown Energy Associates, LP Minerals, LLC – Followed Senate Bills 373 and 423 along with corresponding Legislative Rules associated with the Aboveground Storage Tank (AST) Act.

- Completed over 100 AST Registrations and Inspections.
- Comprehensive electronic documentation comprising of completed inspection sheets, photographs, detailed deficiencies, recommendations and schedule for abatement and a certification page sealed by a Professional Engineer.
- Created site specific Spill Prevention Response Plans various facilities.
- Assisted clients prepare site specific reporting and recordkeeping documentation.

NPDES Industrial/Municipal Permitting

National Pollutant Discharge Elimination System (NPDES) mixing and modeling report, mussel survey, safety and health plan, permitting and approval submittals to WVDEP, USACE, WVSHPO, PLC, USDA, and CSX transportation.

Modifications to NPDES permit, composition and submittal of WVDEP Facility Plan, funding application & modifications through WV Clean Water State Revolving Fund (WVSRF), plant inventory & capacity calculations, and service district demographic analysis & flow projection.

Diffuser sizing & design, diffuser backwater & flood stage analysis, incorporation of new diffuser effluent line into existing continuous flow effluent line, connection vault design, conversion of existing effluent line into overflow line, design of degassing manholes, drop manholes, design of high density polyethylene (HDPE) pipe layout and valving, and in-river concrete anchor and diffuser design.

Geotechnical

CA Ventures, WVU Housing – Completion of eight (8) test borings, associated laboratory testing, and geotechnical recommendations for a combined shallow and deep foundation system for a proposed 13-story student housing project in downtown Morgantown, West Virginia.

EQT, Ohio River for Horizontal Directional Drilling (HDD) – Completion of 35 test borings, associated laboratory testing, and geotechnical recommendations at three sites in Ohio and West Virginia relating to a proposed pipeline and transmission pad projects.

American Campus Communities, Sunnyside Commons – Completion of 23 test borings, associated laboratory testing, geotechnical recommendations, civil site design, surveying, and construction phase geotechnical consulting/testing for a 5.4 Acre high-density student housing project in downtown Morgantown, West Virginia.

MSES Architects/Marion County Board of Education, Marion County Technical Center – Completion of 11 test borings (indoor), associated laboratory testing, geotechnical recommendations, and construction monitoring/testing for a pyrite remediation project at the Technical Center due to heave damage to load bearing walls, footers, and slab floors.

Glenmark Holding, LLC, Greenbag Road Development – Completion of four (4) borings, laboratory testing, geotechnical recommendations, civil site design, surveying, stakeout, and construction consulting on a commercial development in Morgantown, West Virginia.

EQT, Gemini Compressor Station and Interconnect – Completion of 11 borings, laboratory testing, wetland delineation, mine mapping/research, and preliminary geotechnical recommendations for a proposed compressor station and interconnect in Harrison County, West Virginia.

MEPCO, Marshall Portal – Completion of nine (9) borings and installation of one inclinometer, associated laboratory testing, geotechnical recommendations, and slope stability monitoring/analysis at a deep mine shaft site to assist with stabilization of mine portal pad and access road near Mount Morris, Pennsylvania.

EQT, Harrison County HDD – Completion of four (4) borings, associated laboratory testing, and geotechnical recommendations for a proposed horizontal directional drill project underneath the West Fork River in Harrison County, West Virginia.

Town of Granville – Completion of five (5) borings, laboratory testing, geotechnical recommendations, civil site design, contract document preparation, and construction monitoring/testing for the Bowser Street Landslide Repair in Granville, West Virginia.

MEPCO, 4West AWT Plant Geotechnical – Completion of five (5) borings, laboratory testing, geotechnical recommendations, and foundation analysis for a proposed reverse osmosis treatment plant at the 4West Deep Mine near Mount Morris, Pennsylvania.

MEPCO, Renner Portal Geotechnical – Completion of eight (8) borings, laboratory testing, and geotechnical recommendations for a proposed mine portal and access road near Mount Morris, Pennsylvania.

DANA L. BURNS, P.E., P.S.
Vice President

EDUCATION

M.S. Civil Engineering, 1979
West Virginia University

B.S. Civil Engineering, 1978
West Virginia University

EMPLOYMENT HISTORY

1997-Present	Potesta & Associates, Inc.
1994-1997	Terradon
1979-1994	GAI Consultants, Inc.
1978-1979	West Virginia University
1976-1977	West Virginia Department of Highways (summers)

PROFESSIONAL REGISTRATIONS

Professional Engineer – West Virginia, Illinois

Professional Surveyor – West Virginia

PROFESSIONAL CERTIFICATIONS

40-Hour Health and Safety Training

SERVICE ON BOARDS AND COMMISSIONS

Environmental/Technical Committee Member – West Virginia Coal Association

Environmental Committee Member – Kentucky Coal Association

Past Board of Directors Member and Current Waste Team Chairman on the Environmental Safety and Health Committee – West Virginia Manufacturers Association

Environmental and Safety Committee Member – Independent Oil and Gas Association of West Virginia

Environmental Committee Member – West Virginia Oil and Natural Gas Association

Past President – West Virginia Society of Professional Engineers, Professional Engineers in Private Practice

Past President and Past Board of Directors Member – American Council of Engineering Companies West Virginia Chapter

Past Chairman of Transportation Committee – American Council of Engineering Companies West Virginia Chapter

Past Board of Directors Member – Society of American Military Engineers Huntington Post

Member Committee D-18 on Soil and Rock – American Society for Testing and Materials (ASTM)

PROFESSIONAL AFFLIATIONS

American Society of Civil Engineers
National Society of Professional Engineers
WV Society of Professional Surveyors

AREAS OF SPECIALIZATION

Management of design and permitting of civil, environmental, geotechnical, and mining engineering projects. Siting, design, and permitting of industrial and municipal waste disposal sites; reclamation of abandoned mine lands; and development of stormwater management plans and groundwater sampling programs. Environmental/reclamation liability assessments. Development of site plans for commercial and industrial facilities including hydrologic and hydraulic analyses. Expert witness testimony. Directs engineering division including day-to-day operation of headquarters and three branch offices concerning staffing, coordination, training,

business development; and overall management of technical and support staff.

PROFESSIONAL EXPERIENCE

Principal-in-Charge or management/design of the following project types:

Site Development: Utility extension, site grading plans, stormwater management, roadway design, and permitting.

- Residential Subdivisions
- Commercial Developments

Permitting:

- NPDES Stormwater Construction Permits
- Landfill (Municipal and Industrial)
- Mining (New Surface/Deep Mines and Modifications)
- Building Permits

Landfills: Design and permitting.

- 17 Municipal Landfills
- 16 Industrial Landfills (Fly Ash, Bottom Ash, Scrubber Sludge)

Oil and Natural Gas: Well pad design, access road layout, landslide remediation design, evaluation of water supply sources and distribution systems, design of water treatment systems, impoundment design, stormwater management plans, permitting, AST inspections, surveying and SPCC Plans for various major gas clients in the Marcellus and Utica formations.

Water Lines and Treatment Plant: New extensions and replacement of existing lines.

- Over 150 Miles
- Upgrade of Existing Water Treatment Plants

Sewer Lines and Sewage Treatment Plants: New extensions and replacement of existing lines.

- Over 50 Miles
- Upgrade of Existing Treatment Plants
- Design of Micro Bio-Reactor Plants

Abandoned Mine Lands Reclamation: Development of reclamation plans for landslides, mine fires, acid mine drainage, mine subsidence, refuse piles, water supply systems and asbestos abatement.

- Over 100 Projects

Roadways:

- Design/Permitting New Four-Lane Highway – State Route 279
- Relocation of Highways – SR 80 and CR 102/35
- 5 Industrial Access Roads
- 2 School Access Roads
- Upgrade I-64 to Six Lanes

Educational Facilities: Civil/site, geotechnical, stormwater management, surveying and permitting.

- West Virginia University
- Marshall University
- University of Charleston
- Glenville State University

Landslides: Subsurface exploration, evaluation and design of remedial measures.

- Soldier Beam and Lagging Retaining Walls
- Gabion Walls
- Geo-grid Reinforcement with Grade/Drain/Compact In-Place
- Grade/Drain/Compact In-Place

Environmental/Reclamation Assessments for Property Transactions: Ranging in size from tens of acres to over 140,000 acres.

K. JOE KNECHTEL, P.E.
Branch Manager

EDUCATION

B.S. Civil Engineering, 1991
Pennsylvania State University

EMPLOYMENT HISTORY

2004- Present	Potesta & Associates, Inc.
1993-2004	Advanced Asphalt Technologies, L.P.
1991-1993	Pennsylvania Transportation Institute Pennsylvania State University
1990	Pennsylvania Department of Transportation

PROFESSIONAL REGISTRATION

Professional Engineer – West Virginia
Professional Engineer – Virginia

ABSTRACTS, PRESENTATIONS, AND MANUSCRIPTS

Anderson, D.A., Antle, C.E., Knechtel, K., Lui, Y., Marasteanu, M., **"Factors Affecting the Precision of the Dynamic Shear Rheometer and Bending Beam Rheometer,"** Mechanical Tests for Bituminous Materials, Di Benedetto & Francken (eds) 1997

Knechtel, K., Aurilio, V., Harrigan, E., Chollar, B., **"Rheological Analysis of Recovered Binders from the FHWA ALF Rutting Experiment,"** Petersen Asphalt Research Conference, Thirty-Fourth Annual Meeting.

AREAS OF SPECIALIZATION

Project leadership with an emphasis on design, water supply, sewer, permitting of civil and environmental projects. Experience in land development, storm water management, and regulatory issues with community, commercial, and residential projects.

PROFESSIONAL EXPERIENCE

Sewer Lines and WWTPs

Project Manager providing engineering design and permitting services with a local onsite soils evaluator, (OSE) to design several AOSS for residential dwellings in Loudoun County and Clarke County, Virginia (Purcellville, Leesburg, Bluemont, and Berryville). Projects included new development and repair systems of failed conventional systems. Design of repaired AOSS consisted of:

- Sizing trash and pump tanks.
- Incorporating 450-600 gpd multi-flow treatment systems.
- Design of force main and return line to drip irrigation fields.
- Design of shallow-placed, forward flushing drip dispersal fields which consisted of alternating two to four zones.
- Acquired the proper permits through the Loudoun County and Clarke County offices of the Virginia Department of Health (VDH) for these systems and provided construction oversight for construction of system.
- Worked with OSE to develop completion statements with as-built drawings and operation and maintenance manual for final permitting.

Carmeuse Lime & Stone – Project Manager providing permitting, design, and construction oversight services for a maximum 900 gpd AOSS for a new administration and lime kiln equipment/operations buildings at Carmeuse's Winchester Quarry in Clearbrook, Frederick County, Virginia.

- Teamed with an OSE to locate drain field and determined that a drip irrigation system was required for this onsite sewage system.
- Designed the waste water treatment system to include; 2,000-gallon primary tank, a 1,500-gallon

recirculation tank, three Advantex AX-20 treatment units, and a 1,500-gallon drain field dosing tank.
- Designed 1,475-foot force main and return line to drain field.
- Designed an alternating three-zone, shallow-placed, forward flushing drip dispersal field.
- Worked with the OSE in acquiring the proper permits for this design, and then developed bid and specification documents, assisted in pre-bid and pre-construction meetings and provided construction oversight for construction of this system.
- Developed the operation and maintenance manual and as-built drawings for final permitting through the Frederick County office of the Virginia Department of Health (VDH) Frederick County Department of Health.

Water Lines, Water Storage Tanks, and Water Treatment Plants

Carmeuse Lime & Stone – Project Manager providing permitting, design, and construction oversight services design, construction oversight and permitting waterworks system for a new administration and lime kiln equipment/operations buildings at Carmeuse's Winchester Quarry in Clearbrook, Frederick County, Virginia.

- Acquired permitting and developed bid and specification documents for development of a 400-foot deep Class II-B groundwater well.
- Designed a water treatment system that included three sediment filters, one iron/manganese treatment unit with backwash capability, two 1,500 gpd reverse osmosis units with anti-sealant system, calcite filtration to reintroduce hardness and two 750-gallon storage tanks.
- Design was submitted to the Virginia Department of Health and a waterworks construction permit was acquired.
- Provided daily construction oversight of the waterworks construction, acquired certified operator to operate and maintain (daily) the system and provided assistance in waterworks permitting.

Stormwater

Developed Stormwater Pollution Prevention Plans (SWPPP) and Groundwater Pollution Prevention Plans (GPP) for numerous construction sites in West Virginia for WVDEP and National Pollution Discharge Elimination System (NPDES) permitting. Also developed Stormwater Pollution Prevention Plans (SWPPP) for various industrial sites in Virginia.

CHRISTOPHER A. GROSE, L.R.S.

Senior Engineering Associate

EDUCATION

M.S. Geological Engineering, 1990
University of Missouri-Rolla

B.S. Civil Engineering, 1988
West Virginia Institute of Technology

EMPLOYMENT HISTORY

1997-Present	Potesta & Associates, Inc.
1994-1997	Terradon Corporation
1990-1994	GAI Consultants, Inc.
1989-1990	University of Missouri-Rolla
1989	Triad Engineering Consultants (summer)
1988	West Virginia Institute of Technology
1983-1988	Clint Bryan & Associates Architects (summers)

PROFESSIONAL REGISTRATIONS

Licensed Remediation Specialist – West Virginia

PROFESSIONAL CERTIFICATIONS

Hazardous Waste Site Operations and Superfund Worker Protection Training

American Red Cross Standard First Aid and CPR

Troxler Moisture-Density Gauge

AREAS OF SPECIALIZATION

Geological/Geotechnical engineering related to subsurface exploration studies, soil and rock slope design, landslide causation studies, foundation system design, surface/subsurface hydrogeology, ground subsidence, contaminant transport and groundwater flow modeling. Geological study of hazardous waste remediation sites, CERCLA/SARA, RI, and FS report compilation, geological and geotechnical aspects of siting and design of municipal and industrial waste landfills.

PROFESSIONAL EXPERIENCE

West Virginia Division of Highways – Geotechnical engineer on geotechnical/landslide master services agreement for on-call services for a three-year period.

Geotechnical engineer for various bridge and highway projects.

Forensic study, expert testimony, and legal support related to the failure of numerous soil/rock slopes throughout West Virginia. This work included extensive review of relevant project case documents, site reconnaissance visits, interviews with project personnel, and deposition testimony.

Responsible for development of geotechnical and geological recommendations as well as development of stabilization designs for a number of failed soil/rock slopes in West Virginia. This work included initial site reconnaissance visits, development of a subsurface exploration study and materials testing program, evaluation of stabilization alternatives, and construction plan preparation.

WVDEP Abandoned Mine Lands and Reclamation – Subsurface investigation to determine the extent of a landslide for Courtright Highwall AML Project in Bridgeport, West Virginia. Field surveying was completed to establish topographic mapping and control, and subsequent design of landslide repair alternatives. Design ultimately selected included a reinforced slope using stabilizing grid. Landslide contained 400,000 cubic yards of material.

WVDEP Abandoned Mine Lands and Reclamation – Subsurface investigation, surveying, and design for reclamation of a large coal refuse pile and two mine

entries for Vivian Refuse Pile AML Project in Vivian, West Virginia. Plans, specifications, cost estimate, coal refuse reprocessing evaluation, and supporting documents for regrading over150,000 cubic yards of refuse, surface water control, mine seals, and riprap toe protection were completed.

Evaluation of numerous failed soil fill slopes to determine probable failure mechanisms in order to develop remediation alternatives. Responsible for the development of regrading plans which included subsurface drains, benching schemes, and toe buttresses.

Completion of several environmental assessments for coal properties. Work included emphasis on both environmental and reclamation liabilities associated with pre and post SMCRA sites on the properties.

WVDEP Closure Assistance Program – Design of final landfill closure for abandoned solid waste facility. Design included diversion and collection channels, cap design, leachate collection system, and 150,000 gallon leachate storage tank in Montgomery, West Virginia.

Design, management, and project oversight during construction for the closure of a 7-acre biological sludge pond in Nitro, West Virginia. Preliminary design studies included the completion of batch tests to evaluate stabilization materials. Also handled the development and submittal of several permits associated with the project including erosion and sediment control plan, Army Corps of Engineers permit, and a wetlands investigation and nationwide 404 permit.

Development of closure design for a 14-acre inactive waste water treatment pond in Nitro, West Virginia. Responsibilities included evaluation of sludge stabilization technologies, types of reagent and mixing ratios to achieve the required in-place strengths. Conducted contractor interviews with the owner, as well as providing assistance to the owner during preparation of the construction contract. This project was also expanded to provide stabilization of a 1.5-acre digester basin adjacent to 14-acre pond. The original contract was extended to cover stabilization of this pond. Stabilization efforts included submittal of an Army Corps of Engineers' nationwide permit to stabilize the bank of the Kanawha River and application of a West Virginia NPDES General Stormwater Construction Permit.

Operation and maintenance of several groundwater remediation systems including pump and treat and sparge systems for a large chemical manufacturer in Nitro, West Virginia. The pump and treat technology is designed to recover kerosene in one instance and TCE in another. Both systems are safety oriented and are fully automatic. The sparge system is a study/field test to determine the impact that oxygen injection will have on the degradation of phenolic compounds existing in the groundwater.

Columbia Gas Transmission Corporation – Evaluation of numerous groundwater monitoring wells to determine the direction of migration and the feasibility of utilizing them in a planned pump and treat recovery system. The site was an active compressor facility located in Eastern Kentucky.

Design and completion of several geological and hydrologic investigations to determine nature and direction of groundwater flow associated with proposed limestone quarry sites in Nitro, West Virginia. The sites were all associated with Karst terrain and dual permeability systems and primarily fractured flow regimes. Studies included the deployment of drilling equipment to install groundwater monitoring wells.

Measurement of stratified in-site permeability of rock strata in NX boreholes in Hurricane, West Virginia. The permeability measurements were reviewed and evaluated to develop groundwater monitoring systems associated with both existing and proposed municipal landfill disposal facilities.

Dilley's Mill – Review of regional groundwater information for a summer Boy Scout camp facility to locate and construct a replacement drinking water well for the facility. Responsibilities included the development and review of existing facility usage, determination of the location and depth of the proposed water well and design of the well to meet with the requirements of the State of West Virginia Department of Health standards.

Completion of several groundwater contamination studies in West Virginia. Contaminants included diesel fuel, gasoline, chlorobenzene and benzene. Studies included field exploration utilizing various methods including air and mud rotary drilling. Responsible for the setup, calibration, and analysis of groundwater computer models to lend insight into the flow regimes and dispersion characteristics of the potentially affected areas.

D. MARK KISER, P.E., L.R.S.

Chief Engineer, Licensed Remediation Specialist

EDUCATION

B.S. Civil Engineering, 1984
West Virginia University

EMPLOYMENT HISTORY

1997-Present	Potesta & Associates, Inc.
1995-1997	Terradon Corporation
1984-1995	GAI Consultants

PROFESSIONAL REGISTRATION

Professional Engineer – West Virginia, South Carolina
Licensed Remediation Specialist – West Virginia

PROFESSIONAL CERTIFICATION

Hazardous Waste Site Operations and Superfund

Worker Protection Training, 40-Hour Training

Supervisory Training and Annual Refreshers

Troxler Nuclear Densometer Certification

SERVICE ON BOARDS AND COMMISSIONS

Commissioner – Sissonville Public Service District

AREAS OF SPECIALIZATION

Environmental assessments, environmental sampling and remedial programs, conceptual and final designs for chemical, utility, and municipal solid waste disposal sites, including liner systems, leachate management systems, stormwater management systems, operational plans and capping/closure systems, abandoned mine land reclamation projects, sludge stabilization and basin/pond closure projects, environmental permitting, hydrologic and hydraulic analyses, quality assurance/quality control monitoring.

PROFESSIONAL EXPERIENCE

Civil/ Site Design

Ridgeline, Inc./Cabela's – Retained by developer and Cabela's to provide civil engineering design services for a new Cabela's store in Charleston, West Virginia.

- ALTA survey
- Subsurface exploration
- Grading plan including balanced cut and fill for the building pad, parking fields, and access roads.
- Stormwater collection system design including curb inlets, catch basins, and culverts.
- Pavement design.
- Utility extension designs including sanitary sewer, potable water, fire service, natural gas, underground electric, underground telephone, and underground cable television.
- Permitting services
- Support for local approvals including approval from Charleston Municipal Planning Commission as a Development of Significant Impact, and building permit to allow construction to begin.
- MM-109 permit to allow for connection of the store's new roadway with the existing public roadway.

Fieldcrest Subdivision – Project manager/engineer for development of a nine lot subdivision in Charleston, West Virginia. Design and permitting/regulatory approvals for infrastructure, including new street, sanitary sewer main, water main, stormwater, electric, telephone, cable, and natural gas. Preparation of drawings/specifications for necessary governmental agency approvals and for solicitation of bids. Inspection and certification of completed sanitary sewer system.

Connell Pointe Subdivision – Project manager/engineer for development of an eleven lot subdivision in Charleston, West Virginia. Design and permitting/regulatory approvals for infrastructure, including new street, sanitary sewer main, water main, natural gas service, stormwater, electric, telephone, and cable. Preparation of drawings/specifications for governmental agency approvals and for solicitation of bids. Inspection and certification for completed sanitary sewer systems.

Conner Drive Townhouses – Project manager/engineer for development of 13 townhouse lots just outside of Charleston, West Virginia. Planning, surveying, design, and regulatory approvals for infrastructure, including new street, stormwater management system, sanitary sewer main, water main, electric, natural gas, telephone, and cable.

Gettysburg Subdivision – Project manager/engineer for an 18-lot subdivision located in Kanawha County, West Virginia. Design, surveying, and regulatory approvals for infrastructure, including new street, sanitary sewer main, water main, stormwater management system, electric, natural gas, telephone, and cable. Preparation of drawings/specifications for solicitation of bids. Inspection and certification of the sanitary sewer collection system and pump station.

Yorktowne Subdivision – Project engineer for development and construction phase services for a 50-lot subdivision in Charleston, West Virginia. Design of streets, lots, stormwater management systems, sanitary sewer mains and pump stations, water mains, underground electric, natural gas, telephone, and cable.

City of Charleston – Feasibility study for the replacement of the CSX Ramp in Charleston, West Virginia.

Villages at Coolfont – Project manager for project in Morgan County, West Virginia, which included planning, engineering, and permitting associated with developing a second home community on 1.000 acres near Berkeley Springs, West Virginia. Project included:

- Potable water supply source (wells), treatment plant, storage and distribution system
- 0.44 MGD MBR wastewater treatment plant and sanitary sewer collection system
- Community roadways and storm sewer systems
- Detailed plans for the water and wastewater treatment plants and the distribution allocation system serving the first 124 homes
- Permits were obtained for the water and wastewater plants

Project engineer for development of Suncrest Subdivision in Charleston, West Virginia. Project included engineering and permitting for a new residential subdivision including roadway, underground electric, telephone, cable, water, sanitary sewer and storm water. Sanitary sewer system was designed, constructed, and monitored under the terms of an alternate mainline extension agreement with the Charleston Sanitary Board.

Business and Industrial Development Corporation – Preparation of Utility Extension and Roadway Paving Plans for Southridge Centre - Phase 2 area. Project included preparation of bidding/construction drawings to provide natural gas, water, sanitary sewer, telephone, and cable television serving four commercial lots and a 50-lot proposed subdivision. All utilities were underground. The length of the project was approximately ½ mile. The project also included roadway paving and stormwater drainage.

Development of a conceptual development plan for a mixed use industrial park. The evaluation included developing preliminary alignments for two access roadways including earthwork requirements, drainage, subbase, and paving with preliminary cost estimates. Total length of road was over 5 miles. The evaluation also included preliminary layout of water and sewer service for a proposed 400-acre development.

Plasma Processing Corporation – Preparation of permit to construct and site development plan for a secondary aluminum processing facility startup in Jackson County, West Virginia.

Utility relocation plans required for site development, waterline, and sewer construction projects. Projects included determination of utility locations by records review, utility contacts, and surveying. Designs were prepared including locations, details, and pavement replacement. Design also included obtaining approvals from West Virginia Division of Highways and the owners of the utilities.

Water Lines, Water Storage Tanks, and Water Treatment Plants

WVDEP-AML – Detailed design and preparation of construction drawings, specifications, contractor's bid sheet, and engineer's cost estimate for six-mile water line extension including fire protection. Included in project were 90,000 gallon water tank, booster station, and pressure relief valves. Extension tied into Norton Harding Jimtown PSD System and served town of Cassity in Randolph County.

Design for waterline extension projects including preparation of construction drawings, specifications, and engineer's cost estimates for the West Virginia Division of Environmental Protection, Office of Abandoned Mine Lands and Reclamation.

- Cassity Fork Waterline
- Beaver Creek Waterline Extension
- Godby Branch Waterline Extension

Design, preparation of construction drawings, preparation of permit applications, and other related activities for the construction of waterline projects. Line sizes ranged from 16 inches to 2 inches. Materials of construction included polyvinyl chloride and ductile iron pipe. Drawings included planimetric maps, topographic maps, and aerial photograph formats to depict proposed construction. Permit applications included Bureau of Public Health, Public lands Corporation Stream Activity Permits, Division of Highways Occupancy Permits, and General Storm Water NPDES Construction.

- Cabell County 2000 Project, 23 miles of new waterline construction, West Virginia American Water Company (WVAWC)
- Poca River Road Waterline Extension, 13 miles of new waterline construction, WVAWC
- Route 60 Contract 3 Waterline Extension, 3 miles of new waterline construction, WVAWC
- Buff Creek/Trace Fork Waterline Extension, 6 miles of new waterline construction, WVAWC
- Route 60 Contract 4 Waterline Extension, 2 miles of new waterline construction, WVAWC
- Yorktowne Subdivision, 3,000 linear feet of waterline serving a 50-lot subdivision.

MARK A. SANKOFF, P.E., P.S.

Chief Engineer

EDUCATION

B.S. Civil Engineering, 1982
West Virginia University

EMPLOYMENT HISTORY

2011-Present	Potesta & Associates, Inc.
1991-2011	West Virginia American Water
1988-1991	Dunn Engineers, Inc.
1982-1988	Kelley, Gidley, Blair & Wolfe, Inc.

PROFESSIONAL REGISTRATIONS

Professional Engineer – West Virginia
Professional Surveyor – West Virginia

PROFESSIONAL AFFILIATIONS

American Water Works Association
National Society of Professional Engineers

AREAS OF SPECIALIZATION

Water including design of water mains, water storage tanks, booster stations, pressure reducing stations, advanced metering infrastructure – (AMI) and Automated Meter Reading – (AMR) systems. Extensive knowledge in water distribution systems operation and maintenance.

PROFESSIONAL EXPERIENCE

Water Lines, Water Storage Tanks, and Water Treatment Plants

Confidential Coal Company – Onsite water management, reuse and disposal project; services included construction of 8,500 gallon per minute combination high pressure pump/pressure reducing station, controlling a 14 mile 26" HDPE pipe, an 8,500 gallon per minute pressure sustaining valve station, energy dissipation structure, river outfall and SCADA system.

Responsible for engineering at West Virginia American Water (WVAW):

- Supervising an engineering staff of eight, working in conjunction with other departments at WVAW.
- Developing and prioritizing multiple capital projects while developing and managing the multi-million capital budget for West Virginia. Budgeting includes developing and creating large investment projects, multiple public private partnerships and several acquisitions.
- Involved in multiple operational issues/projects including non-revenue water reduction, comprehensive planning studies including interconnection studies to combine operations to increase efficiencies.
- Worked on the automation of Bluestone Water plant which is intended to be the first one shift automated and unattended surface water treatment plant in West Virginia.
- Design of multiple pressure reducing stations and booster stations.
- Overseeing a $1.5+ million per year tank painting program.
- Managed tank painting program, which included evaluating, prioritizing, draining and refilling tanks, tank inspections, preparation of contract documents, bidding, bid evaluations, contract awards, scheduling, taking tanks out of service while maintaining uninterrupted service to customers.
- Responsible for over 300 tanks in the largest water system in West Virginia.

Responsible for the Fayette AMI project, a $4.3 million dollar meter replacement/automation project to automate almost 12,000 water meters in Fayette County, West Virginia. This project was part of an EPA Green Project and the project was successfully publically bid using a

performance specification using stimulus money. Methods were developed to economically work through terrain issues as it related to radio signals to develop a successful project. The project successfully incorporated acoustic listening devices to monitor the distribution system at night to reduce non-revenue water in the Fayette water system.

City of Glenville – Project Manager for the study, design, bidding, and construction phase services for project involving upgrades and construction monitoring to their existing potable treatment and water distribution system.

Town of Mills Creek – Project Manager for the design, permitting, preparation of construction plans, specs, and bidding documents, and construction administration/observation services for the construction of two backwash ponds behind the existing water treatment plant.

Responsible for the project management to complete the WVAW building complex at 1600 Pennsylvania Avenue, Charleston, West Virginia. Provided oversight of the building complex for all operation and maintenance items, as well as liaison with the leasees.

Project Manager of the Kanawha Valley to Montgomery Interconnection Project design which included over 20 miles of 20-inch to 12-inch water mains, two relay booster stations, one storage tank, Kanawha River Crossing, railroad crossings, two pressure reducing stations and radio telemetry.

Project Manager for the EPA IDSE disinfection project to develop the computer water models for the Charleston and Huntington water systems which calibrated the two largest water distribution systems in West Virginia.

Project Manager for the Kanawha County IDB Water Project 2000 which served 33 areas and brought water to over 1,740 families. The total project cost of over $22 million included over 100 miles of water mains, five boosters and six water storage tanks of various sizes. Oversaw the design work of six consultants, including acquiring the rights-of-way, the bidding of 12 water main contracts, and the construction of those contracts with five consultants handling five contractors, while managing the bidding and construction of the above boosters and water storage tanks.

Prepared specifications and plans for numerous water main extensions, water storage tanks, boosters and hydro pneumatic booster stations and pressure regulating stations including site work, other utilities, and property acquisition, including bidding, project and construction management.

Parcoal Project, Webster County, consisting of 8-inch water main extension and a 160,000-gallon water storage tank using an ARC Grant.

Southridge Development Project consisting of 16-inch water main extension to serve the Southridge Development on Corridor G.

Responsible for the 55-person department that maintained the Kanawha Valley water distribution system, which repaired an average of 1,500 main breaks per year up to 30-inch PCCP:

- Responsible for providing new water services – the department made an average of 850 taps per year
- Oversaw the leak survey effort to reduce unaccounted for water – developed a system to check night flow in systems using existing telemetry to determine leakage and direct efforts to maximize finding and fixing those leaks
- Coordinated the small diameter main replacement program which averaged over one million dollars per year
- Comprehensive supervisory experience between union and non-union personnel – responsible for five supervisors
- Assisted in union negotiations – developing a process to equalize overtime within the distribution department Worked with the Manager to develop 24-hour coverage shifts to provide better customer service and reduce O&M costs, including a 12-hour shift schedule using four foremen to provide round the clock coverage
- Served as the liaison with Kanawha County Commission and KCRDA on new water projects to serve un-served areas

Oversaw the completion of the construction of the Consolidated Office Complex for WVAW's corporate headquarters in Charleston in 1997 to 1999.

Kanawha County Water Main Extension Project consisting of waterlines, booster, a 200,000-gallon water storage tank, and four pressure-regulating stations for the Campbells Creek area of Kanawha Valley.

PATRICK A. TAYLOR, P.E.
Senior Engineer

EDUCATION

M.S. Engineering Management, 2006
Marshall University

B.S. Civil Engineering, 1988
University of Florida

Administration – United States Air Force Technical School

EMPLOYMENT HISTORY

2007-Present	Potesta & Associates, Inc.
2000-2007	WV Dept. of Health and Human Resources
1997-2000	Summit Engineering, Inc.
1997	Pyramid Consultants, Inc.
1995-1997	Haworth, Meyer and Boleyn, Inc.
1989-1995	GAI Consultants, Inc.
1979-1983	United States Air Force

PROFESSIONAL REGISTRATION

Professional Engineer – West Virginia

AREAS OF SPECIALIZATION

Drinking water and wastewaster including funding coordination; hydrologic and hydraulic analysis including dam break; chemical and municipal solid waste disposal; surface coal mining; limestone quarry mining; abandoned mine lands reclamation; and site development.

PROFESSIONAL EXPERIENCE

Sewer Lines and WWTPs

Huntington Sanitary Board – Client Manager for oversight of designed construction of the following:

- Design, bidding, and construction management of combined sewer replacement project on 13th Street West and 19th Street, which included a combination of full trench replacement and trench-less technology pipe lining (cured-in-place pipe) for approximately 3,000 feet of 24 through 36-inch pipe.
- Redesign, bidding, and construction management of conversion of four ejector stations to submersible pump stations to include altering design from a cast-in-place concrete cap to allow building to remain. Design included new hatches and hoisting, ventilation equipment, heating, bypass features, and oversight of electrical design.
- 13th Street Pump Station – design, bidding, and construction management of installation of 30-inch bypass on 48-inch prestressed concrete cylinder pipe and replacement of 2-24" failing 90 degree discharge pipe bends, including air release valves. Project included installations of water stops in existing 48" pipe and coordination with the WVDEP to discharge into river during construction work.
- Assistance regarding the CSO long-term control plan's implementation schedule and lead participation development of asset management plan.
- Preparation of wastewater treatment plant incinerator failure analysis and replacement analysis.
- Environmental remediation of fly ash lagoon through West Virginia Voluntary Remediation Program and design of bioretention basin at WWTP for treatment of stormwater fitting "green" project criteria.
- Management of study and preparation of Preliminary Engineer Report for replacement of Huntington's primary 33 MGD pump station facility (13th Street).
- Evaluation of the mixing zone for the Wastewater Treatment Plant discharge.
- Replacement of 54" of PCCP force main crossing flood level at WWTP entrance.
- Design, bidding, and construction management of replacement of 54-inch CMP effluent line with 48-inch HDPE line and diffuser at WWTP, including installation of connection vault, degassing manhole, two manholes, and overflow channel and

rehabilitation of existing pipe at entrance to effluent line with ecocast lining.
- Design, bidding, and construction management of installation of new septage receiving and vacuum truck discharge station to include truck operator control station to allow flow measurement and billing, new access road and pump station to tie-into force main.

Town of Handley – Design of complete rehabilitation of three existing pump stations to include raising elevation of one station above flood plain level.

University of Charleston – Design engineer on rehabilitation of sanitary and stormwater system to include the design and construction of precise bore and jack of two sections main truck line (approximately 500 feet) under the existing main entrance area so that existing old trees, entrance walkways, and vegetation were not disturbed. Due to flat slope lines and requirement of line to meet existing manhole elevations, lines were accurate to a 1/100th foot.

Developed 201 Facilities Plan for $28 million wastewater collection and treatment project in Logan County, West Virginia.

Summit at Cheat Lake Residential Development – Design of package plant and gravity inflow sewer lines, 2,500 linear feet of 1.5-inch and 2-inch force main line from three pump stations for 120-acre, 95-lot residential development at Cheat Lake in Monongalia County, West Virginia.

American Electric Power Company:

- London Locks, West Virginia and Clayton Lake, Virginia – Peat Sanitary Sewer Treatment System, including sediment basin, peat treatment, and UV system

Hydrology and Hydraulics

City of Charleston – Stormwater analysis on existing and future developments of residential watershed in Charleston, West Virginia. Preliminary design of channels, culverts, and flood detention structures. Preparation of design report in which various alternative hydraulic structures were compared with respect to cost and constructability.

Preliminary design of a stormwater management system and grading plans for a regional mall in Western Pennsylvania. Evaluation of several drainage alternatives and pond designs for a site containing numerous wetlands.

Analysis and design of stormwater management for six separate sites, two of them shopping centers, including storm channels, surface and subsurface stormwater detention facilities, culverts, and pipe sizing design.
Design, installation, monitoring and analysis of data from a stream gage for a water supply study of a power generating plant owned by an independent power company.

Pennsylvania Department of Transportation – Drainage structure designs for various projects to include hydrologic analysis, storm channel and detention pond design.

Private Dam Owners – Hydrologic and hydraulic analysis on various private dams within West Virginia to determine impacts from multiple storm events on dam principal and emergency spillways, overtopping and impacts to downstream structures, including dam break conditions using HEC-HMS and HEC-RAS computer programs.

VICTOR M. DAWSON, P.S.

Professional Surveyor

EDUCATION

A.S. Land Surveying
Glenville State College

EMPLOYMENT HISTORY

1998-Present	Potesta & Associates, Inc.
1993-1998	Dunn Engineers
1988-1993	Woolpert Consultants
1986-1988	W. K. Dickson and Company
1986	Clary-Miller and Associates
1985-1986	William F. Knight Land Surveying
1984-1985	Morris Exploration Company
1983-1984	William F. Knight Land Surveying
1981-1983	Columbia Gas Transmission Company

PROFESSIONAL REGISTRATIONS

Registered Land Surveyor – North Carolina, South Carolina, and West Virginia

PROFESSIONAL AFFILIATIONS

North Carolina Society of Land Surveyors
South Carolina Society of Land Surveyors
West Virginia Association of Land Surveyors
American Congress on Surveying and Mapping
West Virginia Association of Land Surveyors, Greater Kanawha Valley Chapter, President 2003
West Virginia Society of Professional Surveyors, Board of Directors 2005-2006

AREAS OF SPECIALIZATION

Expert Witness/Case Preparation and Accident Surveys, ground control, construction stakeout, topographic mapping, boundary and property surveys including ALTA surveys, and construction surveys for layout of work, record drawings, and quantity measurements. Related areas include courthouse research, location/verification of utilities, preparation of right-of-way plans, and verification of property owners.

PROFESSIONAL EXPERIENCE

Surveying

Utilities:

- Cogentrix Energy – Surveying Supervisor for work included GPS control survey of project area, boundary survey of 292 acres, topographic survey of 177 acres for site construction, courthouse research in Marshall County, West Virginia.
- Big Sandy Peaker Plant, Constellation Power – Crew Chief/Surveying Supervisor for work that included GPS control survey of project area, boundary and topographic of 42 acres, boundary and route survey for 1 mile of transmission lines, construction stakeout in Cabell County, West Virginia.
- Paintsville Power Plant, Energy Services – Survey Supervisor for work that included control and topographic survey of a 180-acre site for proposed power plant in Paintsville, Kentucky.
- Greenbrier Pipeline, Dominion – Survey Supervisor for work that included control and preliminary route survey of a 264-mile pipeline running from Corton, West Virginia to Raleigh, North Carolina.
- Upshur County Power Plant, Dominion – Survey Supervisor for work that included control survey and construction survey of a 170-acre power plant in Upshur County, West Virginia.
- Nextel - Crew Chief/Survey Supervisor for cellular telephone tower sites for work that included courthouse research, boundary and topographic survey for 86 tower locations in West Virginia, Kentucky, and Ohio.
- Crew Chief/Project Manager for Little Sugar Creek Channel Improvements in Mecklenburg County, North Carolina.

The State of West Virginia

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

To all to whom these presents shall come, Greeting.

Know Ye That The State Board of Registration for Professional Engineers, of the State of West Virginia, reposing special confidence in the Intelligence, Integrity and Discretion of

Terence C. Moran

Does, In Pursuance of Authority Vested In It by law hereby certify that he having submitted satisfactory evidence of his ability and experience, is a

REGISTERED PROFESSIONAL ENGINEER

Registration Number 12965

To Hold and use such title in the practice of his profession, subject to the conditions prescribed by law.

Given under the hand and the Seal of the Board at the Capitol in the City of Charleston this 13th day of Feb. in the year of our Lord One Thousand Nine Hundred and Ninety Six and of the State the One Hundred Thirty Second

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

Secretary

President

Kenneth H. Means Robert B. Scott Frank Tuddy

WEST VIRGINIA UNIVERSITY

THE COLLEGE OF ENGINEERING

KNOW ALL PERSONS BY THESE PRESENTS
THAT THE UNIVERSITY OF WEST VIRGINIA BOARD OF TRUSTEES
UPON THE RECOMMENDATION OF THE FACULTY
HAS CONFERRED UPON

TERENCE CATO MORAN

THE DEGREE OF

MASTER 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-SEVENTH DAY OF DECEMBER,
NINETEEN HUNDRED EIGHTY-NINE.

Neil L. Bucklew
PRESIDENT OF THE UNIVERSITY

CHAIR, UNIVERSITY OF WEST VIRGINIA
BOARD OF TRUSTEES

Curtis J. Tompkins
DEAN OF THE COLLEGE

James W. Rowley
CHANCELLOR, UNIVERSITY OF WEST VIRGINIA
BOARD OF TRUSTEES

WEST VIRGINIA UNIVERSITY

THE COLLEGE OF ENGINEERING

KNOW ALL PERSONS BY THESE PRESENTS
THAT THE WEST VIRGINIA BOARD OF REGENTS
UPON THE RECOMMENDATION OF THE FACULTY
HAS CONFERRED UPON

TERENCE CATO MORAN

THE DEGREE OF

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
CUM LAUDE

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-NINTH DAY OF
DECEMBER, NINETEEN HUNDRED EIGHTY-SEVEN

Neil L. Bucklew
PRESIDENT OF THE UNIVERSITY

Louis J. Costanzo, III
PRESIDENT, WEST VIRGINIA BOARD OF REGENTS

DEAN OF THE COLLEGE

Thomas H. Cole, Jr.
CHANCELLOR, WEST VIRGINIA BOARD OF REGENTS

The State of West Virginia

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

To all to whom these presents shall come Greeting

Know Ye That The State Board of Registration for Professional Engineers of the State of West Virginia, reposing special confidence in the Intelligence, Integrity and Discretion of

Everett E. Mulkeen

DOES IN PURSUANCE OF AUTHORITY VESTED IN IT by law hereby certify that he having submitted satisfactory evidence of his ability and experience is a

REGISTERED PROFESSIONAL ENGINEER

Registration Number 22200

To Hold and use such title in the practice of his profession, subject to the conditions prescribed by law.

Given under the hand of the Seal of the Board at the Capitol in the City of Charleston, This 16th day of December in the year of our Lord 2016 and of the State the One Hundred Fifty-Third

Members of the Board

Carnegie Mellon University

Upon the recommendation of the faculty
hereby confers on

Everett Edward Mulkeen

the degree of

Master of Science

in recognition of the completion of the course of study prescribed for the field(s) of

Civil and Environmental Engineering

Given under the seal of the Corporation at Pittsburgh
in the Commonwealth of Pennsylvania
on the 20th day of May, 2012

Chairman of the Board of Trustees

President

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

EVERETT EDWARD MULKEEN

The Degree of

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

MAJOR COMPLETED

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 sixteenth day of May,
two thousand ten.

President of the University

Chair, West Virginia University Board of Governors

Dean of the College

Provost and Vice President for Academic Affairs

WEST VIRGINIA UNIVERSITY

DAVIS COLLEGE OF AGRICULTURE, FORESTRY AND CONSUMER SCIENCES

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

DANIEL JOSEPH MILLER

The Degree of

DOCTOR OF PHILOSOPHY

Agricultural and Extension Education

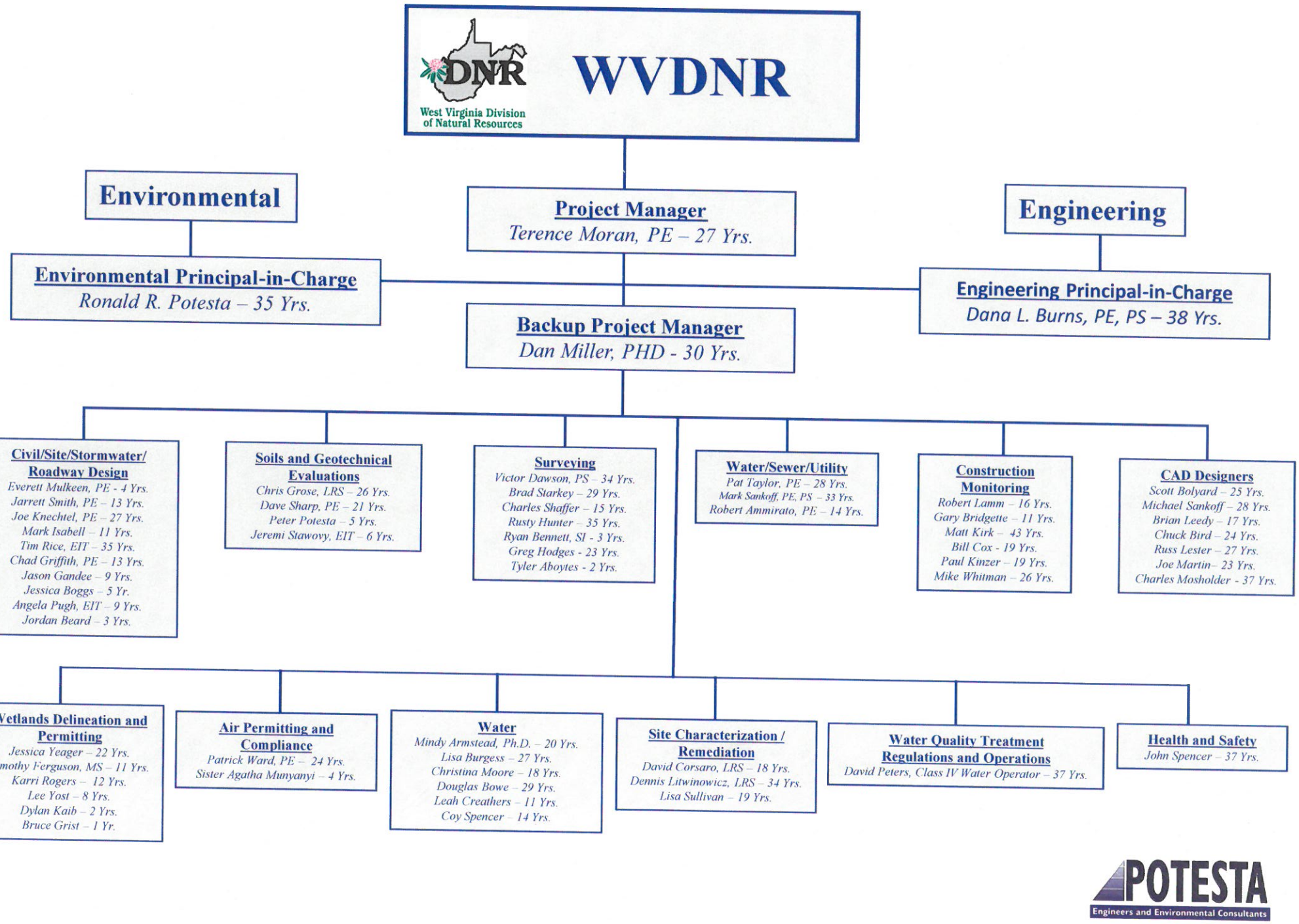
With all the rights, honors, and privileges thereunto appertaining. Witness the seal of the university and the signatures of its duly authorized officers hereunto affixed this eighteenth day of May, two thousand eight.

President of the University

Chair, West Virginia University Board of Governors

Dean of the College

Provost and Vice President for Academic Affairs and Research


WVDNR
West Virginia Division of Natural Resources
Project Manager
Terence Moran, PE – 27 Yrs.
Environmental
Environmental Principal-in-Charge
Ronald R. Potesta – 35 Yrs.
Engineering
Engineering Principal-in-Charge
Dana L. Burns, PE, PS – 38 Yrs.
Backup Project Manager
Dan Miller, PHD - 30 Yrs.
Civil/Site/Stormwater/ Roadway Design
Everett Mulkeen, PE - 4 Yrs.
Jarrett Smith, PE – 13 Yrs.
Joe Knechtel, PE – 27 Yrs.
Mark Isabell – 11 Yrs.
Tim Rice, EIT – 35 Yrs.
Chad Griffith, PE – 13 Yrs.
Jason Gandee – 9 Yrs.
Jessica Boggs – 5 Yr.
Angela Pugh, EIT – 9 Yrs.
Jordan Beard – 3 Yrs.
Soils and Geotechnical Evaluations
Chris Grose, LRS – 26 Yrs.
Dave Sharp, PE – 21 Yrs.
Peter Potesta – 5 Yrs.
Jeremi Stawovy, EIT – 6 Yrs.
Surveying
Victor Dawson, PS – 34 Yrs.
Brad Starkey – 29 Yrs.
Charles Shaffer – 15 Yrs.
Rusty Hunter – 35 Yrs.
Ryan Bennett, SI - 3 Yrs.
Greg Hodges - 23 Yrs.
Tyler Aboytes - 2 Yrs.
Water/Sewer/Utility
Pat Taylor, PE – 28 Yrs.
Mark Sankoff, PE, PS – 33 Yrs.
Robert Ammirato, PE – 14 Yrs.
Construction Monitoring
Robert Lamm – 16 Yrs.
Gary Bridgette – 11 Yrs.
Matt Kirk – 43 Yrs.
Bill Cox - 19 Yrs.
Paul Kinzer – 19 Yrs.
Mike Whitman – 26 Yrs.
CAD Designers
Scott Bolyard – 25 Yrs.
Michael Sankoff – 28 Yrs.
Brian Leedy – 17 Yrs.
Chuck Bird – 24 Yrs.
Russ Lester – 27 Yrs.
Joe Martin – 23 Yrs.
Charles Mosholder - 37 Yrs.
Wetlands Delineation and Permitting
Jessica Yeager – 22 Yrs.
Timothy Ferguson, MS – 11 Yrs.
Karri Rogers – 12 Yrs.
Lee Yost – 8 Yrs.
Dylan Kaib – 2 Yrs.
Bruce Grist – 1 Yr.
Air Permitting and Compliance
Patrick Ward, PE – 24 Yrs.
Sister Agatha Munyanyi – 4 Yrs.
Water
Mindy Armstead, Ph.D. – 20 Yrs.
Lisa Burgess – 27 Yrs.
Christina Moore – 18 Yrs.
Douglas Bowe – 29 Yrs.
Leah Creathers – 11 Yrs.
Coy Spencer – 14 Yrs.
Site Characterization / Remediation
David Corsaro, LRS – 18 Yrs.
Dennis Litwinowicz, LRS – 34 Yrs.
Lisa Sullivan – 19 Yrs.
Water Quality Treatment Regulations and Operations
David Peters, Class IV Water Operator – 37 Yrs.
Health and Safety
John Spencer – 37 Yrs.
POTESTA
Engineers and Environmental Consultants

REFERENCES DEMONSTRATING ADHERENCE TO PROJECT BUDGET AND TIME CONSTRAINTS

1. Project Summary:

Boone County Public Service District, Water and Wastewater Systems – Provide design, permitting, bidding and construction phase services for 25+ water and wastewater system projects from 2004 to present. Projects had to be designed based on limited grant funds. To date, approximately 20 of the projects have completed construction.

Client Project Manager:
Ms. Nancy Shreve
Boone County Public Service District
109 Town Square
PO Box 287
Danville, West Virginia 25053
Phone: (304) 369-2622
Fax: (304) 369-6276

2. Project Summary:

Salt Rock Sewer Public Service District – Provided conceptual engineering, final design, plan review, regulatory services associated with approximately 25 projects for the sewer utility.

Client Project Manager:
Ms. Ruby Griffith, General Manager
Salt Rock Sewer Public Service District
100 Padero Drive
Ona, West Virginia 25545
Phone: (304)743-6945

3. Project Summary:

Source water assessment plan services for 100+ public water systems in southern, northern and eastern, West Virginia, 2002-2004, and 2009-2012. POTESTA assisted public water systems completing the source water projection plans utilizing a limited amount of grant money provided by the United States Environmental Protection Agency (USEPA).

Client Project Manager:
Mr. Scott Rodeheaver
West Virginia Bureau for Public Health
Office of Environmental Health Services
350 Capitol Street, Room 313
Charleston, West Virginia 25301-3713
Phone: (304) 356-4270
Fax: (304) 558-4322

MASTER SERVICES AGREEMENT
2012 – PRESENT

West Virginia American Water
West Virginia

Potesta & Associates, Inc. (POTESTA) is currently working with West Virginia American Water (WVAW) on multiple projects, including the replacement of aging water mains including cast iron, pvc, asbestos cement (AC) and transite piping. POTESTA has assisted WVAW in replacing over 100 sections of water lines. Work has included design, permitting, contract documents, drawings, construction observation, project management, and invoice approval.

POTESTA has worked with WVAW and the contractor so that the new line is placed in service while maintaining service to the existing customers and then performing an organized transition to the new water line. Then eliminating the old water line after the customers are transferred over to the new water line, thus minimizing customer interruption.

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Charleston, WV • Morgantown, WV • Winchester, VA
Phone: (304) 342-1400 • Fax: (304) 343-9031 • www.potesta.com

RIVER PIPELINE PUMP SYSTEM AND DISCHARGE STRUCTURE DESIGN

Coal Mining Company
Western, Pennsylvania

POTESTA was retained by a coal company in Western Pennsylvania to assist with engineering services pertaining to a pipeline constructed to dewater deep mines for continued mine operations. The pipeline project included a water treatment plant, a combination pump/pressure reducing valve station with an 8,500 GPM (12.2 MGD) maximum flow which pumps downhill, 80,000 linear feet of 26-inch HDPE water line, an 8,500 GPM flow control station, and energy dissipater/outfall into the river.

POTESTA's services included preliminary pumping design options, final design of pumping system, and water line discharge structure. Additionally, POTESTA was retained to provide design of the pipeline system from the Advanced Water Treatment (AWT) Feed Ponds to the AWT water line.

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DESIGN AND CONSTRUCTION OF SEWER REHABILITATION

Town of Handley
Handley, Kanawha County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the Town of Handley (Handley) to provide design and construction phase services for rehabilitation of their 1980s sewer system. Handley had constant problems with their pump stations over the years, as well as one station being intermittently flooded which caused electrical and pump failure. POTESTA's services included:

- Assisted in obtaining funds for field work and preliminary engineering report.
- Assisted the Town of Handley and the Regional Development Council in obtaining a Small Cities Block Grant (SCBG).
- Worked continuously to keep system operating by bidding smaller projects for servicing while waiting for funding.
- Designed total rehabilitation to the three pump stations (including permanent and mobile generators).
- Designed pipe and valve replacement.
- Assisted in obtaining an SCBG construction grant.
- Able to obtain other necessary equipment with excess money from grant funding.

Before: Upper Drive Lift Station

After: Upper Drive Lift Station

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HUNTINGTON SANITARY BOARD
WASTE WATER TREATMENT PLANTS AND ASSISTANCE WITH VARIOUS SERVICES

Huntington Sanitary Board
Huntington, West Virginia

POTESTA currently has a general agreement with the Huntington Sanitary Board (HSB) to perform services related to the Board's implementation of their Long-Term Control Plan, Water Treatment Plant Modernization Plan, and Storm Water Management Utility Establishment/Operation. This agreement has been comprised of multiple work orders for improvement of Huntington's combined sewer system.

Currently, POTESTA has concluded or is in the process of the following work:

- Design and construction services for new regional septage receiving and a vacuum truck disposal, pump station, septage receiver ("the beast") and roadway.

- Management of preparation of wastewater treatment plant sludge incinerator failure analysis and preparation of cost study to replace incinerator including measures to meet new Clean Air Act standards for sludge incinerators.

- Environmental remediation of fly ash lagoon through West Virginia Voluntary Remediation Program and design of Bioretention Basin at WWTP for treatment of stormwater fitting "green" project criteria.

- Evaluation of the mixing zone for the wastewater treatment plant discharge into the Ohio River through computer analysis. Based on the analysis, it was determined that the effluent line required a diffuser to allow for adequate mixing at the discharge.

WEST MADISON WASTEWATER SYSTEM IMPROVEMENTS PROJECT

Boone County Public Service District
Danville/Madison, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Boone County Public Service District (BCPSD) to provide design, permitting, bidding, and construction phase services for 3,700 feet of gravity sewer line replacement, and rehabilitation of two pump stations. Included in this project was:

1. Preparing construction drawings that presented the upgrades, including plans and profiles.

2. Completing hydraulic calculations to size units.

3. Preparing permit applications to the West Virginia Division of Highways, West Virginia Department of Health and Human Resources, West Virginia Public Lands Corporation, United States Army Corps of Engineers, and the West Virginia Department of Environmental Protection.

4. Preparing a West Virginia Infrastructure and Jobs Development Council funding application and Preliminary Engineering Report, and Facility Plan.

5. Preparing contract documents and providing assistance during the bidding of the project (under contract to provide).

6. POTESTA is under contract for construction administration/observance.

The project is to be funded by the West Virginia State Revolving Fund (SRF).

Wet Well of Pump Station to be Rehabilitated

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HATFIELD-MCCOY/WATERWAYS WATER LINE EXTENSION

Boone County Public Service District
Boone County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained to provide engineering services for extension of Boone County Public Service District (BCPSD) water lines to the proposed Hatfield-McCoy trailhead facility and the Boone Waterways facility.

The design concept involved extending water line from Julian to approximately 10 new customers, crossing a four-lane highway and a river. Approximately 12,000 linear feet of 12-inch, 8-inch and 6-inch water line were designed, as well as four river crossings. Services included:

Crossing of Little Coal River

1. Completing a hydraulic evaluation of the extension to size proposed water line, including flow testing of the existing system.

2. Preparing a funding application to the West Virginia Infrastructure and Jobs Development Council.

3. Preparing drawings, specifications, and a cost estimate.

4. Preparing permit applications to the West Virginia Department of Health and Human Resources, West Virginia Division of Highways, U.S. Army Corps of Engineers and West Virginia Public Land Corporation, and interacting with those entities until permits were issued.

5. Providing bidding phase services, construction management services, and full-time construction observation.

POTESTA's services were provided on a "fast track." Design commenced in June 2007 and construction was completed in July 2008. The project was completed under budget.

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