

# **EXPRESSION**OF INTEREST

**Prepared for:** 

# **West Virginia Department of Environmental Protection**

Office of Abandoned Mine Lands and Reclamation 601 57th Street, SE Charleston, West Virginia 25304





Pine Bluff (Wilson) Refuse
(Requisition Number CEOI DEP1800000004)

# **CHARLESTON**

7012 MacCorkle Avenue, SE Charleston, WV 25304 (304) 342-1400

# **MORGANTOWN**

125 Lakeview Drive Morgantown, WV 26508 (304) 225-2245

# **WINCHESTER**

15 South Braddock Street Winchester, VA 22601 (540) 450-0180



# **TRANSMITTAL MEMO**

125 Lakeview Drive, Morgantown, WV 26508 Phone: (304) 225-2245 Fax: (304) 225-2246

Го:	Ms. Br	ittany Ingraham		Date:	July 10, 2018					
	Depart	ment of Administration, I	Purchasing Division	Project No.:	0102-18-0218					
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# **EXPRESSION OF INTEREST**

# Pine Bluff (Wilson) Refuse (Requisition Number CEOI DEP1800000004

# 1.0 QUALIFICATIONS

# 1.1 Corporate History and Experience

Potesta & Associates, Inc. (POTESTA) proposes to provide professional engineering design services and construction monitoring services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands & Reclamation (WVDEP, AML). These services will consist of attendance at pre-bid and pre-construction conferences, construction monitoring, providing a revised Engineer's Cost Estimate, review of plan and specification and other miscellaneous services as may be required for the Pine Bluff (Wilson) Refuse Project located in Harrison County, West Virginia. POTESTA understands the project will consist of the following design services:

- Upgrade access as required.
- Protect area of the adjacent cemetery.
- Clear and grub affected areas.
- Regrade as necessary.
- Entomb acid-forming materials with on-site-available borrow material and away from any water source.
- Install drainage channels, underdrains, and/or other controls to safely convey water off-site.
- Condition and revegetate all disturbed areas.
- Obtain required permits NPDES PERMIT, MM109

POTESTA is an engineering and environmental consulting firm providing professional services to deliver innovative, cost-effective solutions to complex problems. Our firm is multi-disciplinary and has a diversified practice covering engineering (civil, chemical, environmental, geotechnical, mechanical, and mining), permitting, site characterization and remediation, and general environmental consulting. Civil/site, geotechnical and mining engineering are areas of extensive expertise at POTESTA. We have worked on numerous engineering projects (ranging from site grading and drainage plans for university dorms and commercial/presidential developments, to power plant foundations to mine layouts/reclamation of abandoned mine lands) throughout the region. Our 14 registered professional engineers have over 300 years of experience among them and are supported by a large group of engineers, designers, surveyors and a landscape architect. Regulatory liaison and environmental compliance are areas of exceptional strength for POTESTA as the President of the company is a former director of the West Virginia Department of Natural Resources.

Our clients include state, local, and federal government agencies, mining companies, manufacturers, utility companies, waste management companies, chemical companies, architects, attorneys, financial institutions, insurance companies, land developers, and construction companies.

We carry a full line of insurance coverage including general liability, errors and omissions, and workers' compensation; POTESTA's certificate of Liability Insurance is included in **Appendix A**. We also have quality control procedures to assist in providing our clients with quality projects.

# POTESTA offers the following professional services.

- ▶ 404 Permit Preparation and Negotiation
- Acid Mine Drainage Control
- Asbestos Inspection
- Benthic and Biological Studies
- CADD Services (AutoCAD 2018, Various Software Design Packages, Digitizing and Plotting)
- Chemical Engineering
- Civil Engineering
- Clean Air Act Compliance
- Construction Monitoring
- Corporate Environmental Management
- Design of Slurry Impoundments and Refuse Disposal Sites
- Dewatering Plans
- Environmental Engineering
- ► Environmental Impact Studies
- ► Environmental Site Assessments
- ► Environmental Audits
- ► Environmental Engineering
- ► Erosion and Sedimentation Control Plans
- ► Expert Witness and Litigation Support
- Feasibility Studies
- Foundation Design
- Geological Services
- Geotechnical Engineering
- ► Ground and Surface Water Sampling
- Groundwater Investigation and Remediation
- ► Groundwater Protection Plans
- Hazardous Waste Management
- Hydrologic and Hydraulic Evaluations
- ► In-Situ and Ex-Situ Biostimulation/Bioaugmentation
- Landfill Design and Land Use and Natural Resource Planning
- ▶ Landfill Closure Plans
- Land Use and Natural Resource Planning
- Mining Engineering
- Multimedia Sampling (Air, Fly Ash, Rock, Soil, Water)
- Pollution Prevention and Waste Minimization Planning

- Permitting (Air, FERC, Fly Ash Haulback, Mining, NPDES, Quarry and Solid and Hazardous Waste)
- Post Reclamation Land Uses
- Pre-Blast and Pre-Subsidence Surveys
- Preparation of Construction Documents (Calculations Brief, Construction Drawings, Contractor's Bid Sheet, Engineer's Cost Estimate, QA/QC Manual and Technical Specifications)
- ► Reclamation Design and Planning
- Reclamation Liability Assessments
- Regulatory Liaison Services
- Risk-Based Environmental Assessment
- SARA Title III, TIER II and Form R Inventory and Reporting
- Sewer Line Design
- Site Characterization and Remediation Planning
- ► Site Design/Planning
- ► Soil Science/Agronomy
- Spill Prevention Control and Countermeasure Plans
- ► Stabilization and Closure of Waste Impoundments
- Stormwater Management and Permitting
- Stream Benthic Macro-Invertebrate Surveys and Toxicity Evaluations
- Stream and Water Restoration
- ► Subsidence Studies
- Subsurface Explorations
- Surface and Groundwater Monitoring, Statistical Analysis and Reporting
- Surveying (Traditional and Global Positioning System)
- UST Closure and Site Remediation
- UST Installation Monitoring
- Waste Facility Permitting and Design
- Waste Disposal Design
- Water Line Design
- ► Water/Wastewater Treatment Design
- Wetland Investigation and Delineation, Mitigation Design and Monitoring

POTESTA has the following staff in our Morgantown, West Virginia office:

- 5 Engineers, Including 3 Professional Engineers
- 3 Scientists (Biologists, Ecologists, Environmental Scientists, Etc.)
- 1 CADD Operators/Designer
- 1 Support and Other Staff

POTESTA has the following staff in our Charleston, West Virginia office:

- 17 Engineers, Including 11 Professional Engineers
- 16 Scientists (Biologists, Ecologists, Environmental Scientists, Etc.)
- 3 Geologists/Hydrogeologists/Geological Scientist
- 1 Hydrologist
- 7 Surveyors
- 6 CADD Operators/Designers
- 10 Technicians/Construction Monitors
- 9 Support and Other Staff

POTESTA, since starting in 1997, has grown to over 80 employees in three offices. Included are 14 registered professional engineers (R.P.E.'s), 3 registered professional licensed land surveyors (P.L.S.'s), and one Ph.D. whose specialties include aquatic biology and water quality. POTESTA has assembled a team that has historically served WVDEP, AML on numerous AML projects. In fact, our staff has worked on over 160 AML projects for WVDEP (and more in other states) on four different WVDEP, AML contracts dating back into the mid 1980's. We have an ongoing workload with WVDEP, AML.

POTESTA will perform the work for this project from our Morgantown, West Virginia office. Our Morgantown office is in close proximity to WVDEP's Bridgeport office and will facilitate immediate response to your needs and allow meetings to be attended within minutes notice; in addition, we can draw upon support from our Charleston office which also has experience with AML projects. POTESTA emphasizes that we will make a priority commitment to this project.

POTESTA has completed projects involving civil, structural, geological, hydrological and reclamation engineering; land use and natural resource planning; soil science/agronomy; hydrology/geology; stream and water restoration; and post reclamation land uses. We also have open ended statewide contracts with the West Virginia Division of Highways (WVDOH) for environmental remediation and asbestos inspection services. In addition, we have the preeminent staff in West Virginia for addressing issues regarding water quality and regulatory issues since (a) one of our principals is a former head of the state environmental regulatory agency, and (b) we have one Ph.D. and numerous others with master's degrees whose specialty is water quality. As a result, POTESTA will provide the required expertise to complete this AML project in a timely, economical, and efficient manner.

POTESTA has assembled a successful team of employees that have historically worked on WVDEP, AML projects. In fact, our staff has 125+ years experience working on WVDEP, AML projects and

AML projects in other states. Our staff's direct knowledge of the AML program guidelines and personnel, our familiarity with the applicable state regulations, and our commitment to success will benefit WVDEP, AML.

POTESTA has 10+ employees with experience on WVDEP, AML projects. POTESTA employees have worked on and have experience in the following WVDEP, AML projects:

- ♦ Assessment of Contamination (e.g., PCB's, asbestos)
- ♦ Demolition of Structures
- ♦ Diversion of Stormwater
- Identifying and Controlling Acid Mine Drainage
- ♦ Landslides
- ♦ Mine Fires
- Passive Acid Mine Drainage Treatment
- ♦ Reclamation of Refuse Piles
- ♦ Sealing Mine Portals
- ♦ Stream Relocations
- Subsidence Assessment and Remediation
- ♦ USCOE Permitting
- ♦ Water Line Design
- Water Supply Feasibility Studies and Design
- Inventory of Residential Water Supplies
- ♦ Wetland Assessments

POTESTA has completed several AML projects and projects similar to a WVDEP, AML type project. These include water line design and construction administration and observation, design and permitting of refuse piles and slurry impoundments, evaluating mine drainage from pre-SMCRA sites, reclamation designs for WVDEP, LCAP, landslides, stream monitoring, development of grading plans, mine reclamation liability assessments, watershed assessments including evaluation of impact from AMD including AMD from pre-SMCRA sites, detention pond designs, wetland studies, mine site design and permitting and design of numerous storm water structures.

**Appendix B** contains the executed Request for Solicitation, Certification and Signature Page, Addendum Acknowledgement Form, Disclosure of Interested Parties to Contracts, and Purchasing Affidavit Form.

The following describes POTESTA's qualifications for the surveying, aerial mapping, subsurface exploration, and laboratory services necessary for this project.

POTESTA proposes to utilize our own survey crews on this project. POTESTA will perform all of the surveying required for this contract using in-house personnel. POTESTA has three licensed professional surveyors with over 50 years of combined surveying experience. Our surveyors are experienced in all aspects of surveying such as topographic mapping, boundary and property surveys, and construction surveys for layout of work, record drawings, and quantity measurements. We have three survey crews and the capability to add a fourth crew if necessary.

POTESTA's surveyors use state-of-the-art "Field to Finish" equipment such as total station instruments, Trimble R-8 Glonass, data collectors, AutoCAD 2018, Autodesk Land Desktop and Autodesk Civil 3D design software, computer hardware for data management, and a Hewlett Packard Designjet 7100 color ink jet plotter.

POTESTA is equipped with modern surveying instruments allowing efficient data processing and accurate gathering of field information. Total station instruments equipped with data collectors are utilized for complete field-to-office automation allowing for high levels of productivity in the field. The latest versions of software are then used to process survey data and create drawings or required end products.

POTESTA utilizes state of the art computers and hardware, networked through Windows NT, for interfacing of drafting and surveying departments. Thus, drawing and surveying data files can be shared efficiently.

Surveys and mapping are completed to the standards as outlined by the National Map Standards as well as other applicable quality standards.

Additional information on POTESTA's corporate history and experience is included in the AML Consultant Confidential Qualification Questionnaire included in **Appendix C**.

# 1.2 Experience, Qualifications, and Performance Data of Primary Staff

Primary staff POTESTA commits to this contract and their roles are as follows:

Mr. Dana L. Burns, PE, Vice President at POTESTA, will serve as principal-in-charge for this project. Mr. Burns has served as project manager or principal-in-charge on three open end contracts for WVDEP, AML from 1986 through 1997 totaling over 65 projects. In addition, Mr. Burns has served as the principal-in-charge for numerous other WVDEP, AML projects since 2003. Mr. Burns' experience includes over 40 years of civil and environmental engineering and related projects including water line extensions, sealing portals, regrading refuse, site assessments, mine fires, preliminary feasibility evaluations, detailed design, and preparation of construction drawings, specifications, and bid documents. Mr. Burns will ensure that the AML workload is properly supported.

Mr. David B. Sharp, PE, will serve as a project manager/design team leader. Mr. Sharp is the Branch Manager of POTESTA's Morgantown office. Mr. Sharp is a registered professional engineer in Maryland, West Virginia, Pennsylvania, Ohio, and Kentucky. Mr. Sharp has over 24 years of experience with engineering and environmental consulting projects throughout the region. Mr. Sharp obtained his bachelor's and master's degrees from West Virginia University and has spent a large part of his career involved with geotechnical engineering, construction observation/management, and municipal projects. Mr. Sharp has worked on and managed numerous projects involving mine permitting, mine reclamation, acid mine drainage, hydrology, geotechnical stability analysis, and

many other components that would typically be encountered on an abandoned mine reclamation project. Many of these projects have included preliminary planning and assessments, as well as geotechnical engineering, assessments of potential treatment technologies, and preparation of bidding and construction documents.

Mr. Tim Rice will serve as a senior engineer and the primary contact for this project. Mr. Rice has over 33 years of full-time experience and has worked on nearly 80 different AML projects for West Virginia, Maryland, Ohio and Pennsylvania. His AML experience includes abandoned surface and deep mine reclamation; mine portal and shaft closures; hydraulic and hydrologic design/evaluation; remining explorations; mine refuse and deep mine fire abatement and extinguishing plans; subsidence explorations and mitigation plans; hazardous waste abatement plans; water feasibility studies and water system design; construction observation and management plans; natural stream restoration projects; geotechnical explorations; slope stability analyses; preparation of construction drawings, specifications and engineers estimates; and directing both pre-bid and pre-construction meetings. Mr. Rice is familiar with management of subcontractors, as well as managing staff and equipment needs for the design team.

Mr. Chad Griffith, PE, has worked as a project manager for multiple surface mining permits. Mr. Griffith has over 12 years of engineering experience and his work has involved civil design aspects including drainage structures, storm water control, and haul road design to name a few.

Messrs. Mark Kiser, PE, and Terence Moran, PE, will serve as project advisors if needed. Mr. Kiser has served as a project manager/project engineer for over 40 AML projects in West Virginia. Mr. Kiser has over 33 years of experience in civil and environmental engineering projects including evaluation, design, preparation of plans and specifications, and construction administration. He has worked on over 65 AML projects as well as extensive experience with the coal industry. Mr. Kiser performs constructability reviews on our projects during and after design. Mr. Kiser is currently POTESTA's project manager for POTESTA's WVDEP, LCAP contract.

Mr. Moran has served as project manager/project engineer or assisted with over 60 AML projects in West Virginia and Virginia. Mr. Moran has 27 years of experience in civil and environmental engineering projects, including evaluation, design, preparation of plans and specifications, and construction administration. Mr. Moran has co-authored multiple papers, including one on the abatement of AMD at the Omega Mine site and another on evaluating AMD of AML sites during preaquisition site assessments. Messrs. Kiser and Moran have worked on AML projects that addressed such technical issues as AMD, sealing portals, regrading refuse, diverting stormwater, landslides, subsidence and water supply. Messrs. Kiser and Moran are both familiar with requirements of AML projects and will ensure that WVDEP is satisfied with POTESTA's work by ensuring that proper QA/QC and timeliness are adhered to.

NOTE: Since POTESTA has 14 professional engineers (P.E.), a combined significant track record with AML projects, POTESTA believes it can handle a substantial AML workload. Hence, POTESTA can adequately staff the Pine Bluff (Wilson) Refuse Project.

POTESTA has one other PE with AML and related design experience in Mr. Patrick Ward. His individual experience and capabilities are discussed in further detail later in this section and in **Appendix D**.

POTESTA has an additional project manager/project engineer in Mr. Chris Grose who has worked on numerous WVDEP, AML projects. Mr. Grose has 26 years of experience and will serve as POTESTA's geotechnical scientist for work on this contract. Mr. Grose currently oversees aspects of geotechnical work at POTESTA and has worked on WVDEP, AML projects since 1990. Mr. Grose will evaluate slope stability issues with respect to regraded coal refuse, landslide abatement, or other steep slope applications.

Abbreviated personal history statements of primary staff and more detailed descriptions of staff experience are presented in the AML Consultant Confidential Qualification Questionnaire in **Appendix C**, and the AML and Related Project Experience Matrix in **Appendix D**.

# 1.3 Experience, Qualifications, and Performance Data of Other Staff

POTESTA has a staff of over 80 technical and support personnel. Combined with our team of highly experienced subcontractors, POTESTA is exceptionally well suited to: (1) complete surveying and mapping; (2) perform geotechnical services including subsurface exploration and laboratory analysis; (3) design drainage diversion structures such as mine seals, reinforced concrete caps over vertical openings, channels and culverts, perform regrading plans for the refuse areas, and design dewatering plans, if necessary; (4) develop engineering drawings, contract specifications, permit applications and other contract documents; and (5) attend a pre-bid meeting and pre-construction conference as may be required for the Pine Bluff (Wilson) Refuse Project. POTESTA can conduct all design engineering work required for this project with present personnel.

POTESTA's project managers will be supported by a team of engineers, scientists, surveyors, hydrologists, geologist/hydrogeologists, biologists, CADD operators, and other support personnel from POTESTA's staff. Included are geotechnical scientists and geotechnical engineers such as Mr. Chris Grose and Mr. Patrick Ward, PE, who have both worked on numerous AML projects; project engineers such as Jason Gandee, Robert Ammirato, PE, and Jarrett Smith, PE; Mr. Victor Dawson, PLS, who has worked on developing mapping or performing construction layout on projects dating back into the late 1980's; and POTESTA's team of CADD Operators whom have also worked on AML projects.

Abbreviated personal history statements of key personnel are presented in the AML Consultant Confidential Qualification Questionnaire presented in **Appendix C**. Additional information is included in Section 1.4 "Management Plan and Location of Facilities."

Our corporate and staff's experience involves civil (including water supply systems), structural, geological, hydrological, environmental, mining, geotechnical, and reclamation engineering; land use and natural resource planning; soil science/agronomy; hydrology/geology; surface/underground coal mining; environmental and ecological principles in land reclamation, stream and water restoration,

and post reclamation land uses; and contract administration. Our capabilities, qualifications and expertise in design of AML projects are further exemplified in the attached Service Briefs located in **Appendix E** and Project Abstracts located in **Appendix F**.

POTESTA provides multi-disciplinary services and can perform all of the professional services required under this contract.

# 1.4 Management Plan and Location of Facilities

# **Management Plan**

POTESTA's proposed project organization chart including key staff and subcontractors is contained in **Appendix G**. Work will be performed at POTESTA's Morgantown, West Virginia office or on-site as may be required. Our Morgantown office will be supported, if needed, by our Charleston office.

POTESTA's professional, technical, and support staff have extensive experience on water supply and WVDEP, AML projects. We are well qualified to serve WVDEP on this project. We stand ready to commit the personnel and resources required to complete this project in a timely, technically sound, and cost-efficient manner. POTESTA's large staff size will allow us to work on this project on an accelerated schedule if necessary.

POTESTA's principal-in-charge will be responsible for contract management (administration) and shall coordinate and direct all aspects of the project. The principal-in-charge will review the proposed project, assign a project manager, assemble a project team and appoint key staff to develop a proposed scope of work. The principal-in-charge and project manager will visit the site with WVDEP, AML to review site conditions and the proposed services to be completed and guide the preparation of a detailed proposal and cost estimate. A written proposal including a detailed scope of work and an associated manhour and cost estimate will then be prepared and submitted to WVDEP. AML for review. The project manager will review the proposal with the WVDEP, AML including a task-by-task discussion of work items and the related costs. Upon WVDEP, AML'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 WVDEP, AML. Mr. Dana Burns, PE will serve as the principal-in-charge on this project. Day-to-day project activities for this project will be performed under the direction of our project manager, Mr. Dave Sharp, PE. Mr. Tim Rice, EIT, will serve as a "backup" project manager for quality assurance/quality control. The project manager will develop a detailed step-by-step project work plan so that the project activities are completed in a correct manner, on-budget, and on-time. They will also review work products at intermediate points and prior to project completion. They will conduct project status reports which may include weekly meetings, memos, or telephone calls with the WVDEP, AML project manager as required. The project manager will supervise the day to day work in progress, will coordinate with POTESTA's

subcontractors to provide necessary services, and review work products at intermediate points and prior to submittal to the WVDEP, AML.

POTESTA will utilize the appropriate classification of staff to conduct activities required for the project. Our large, experienced staff allows us to respond quickly, provides flexibility, and will provide for the opportunity of high level input from in-house experts on complex multi-disciplinary projects. Our normal method of staffing projects is to assign a small project team with total responsibility for completion of the work to the client's satisfaction and budget. Where necessary, the team can draw on the expertise available within POTESTA's large staff. POTESTA offers a large staff with the efficiency and rates normally associated with a small firm.

WVDEP, AML has indicated that preliminary design documents will be due 60 calendar days from the issuance of the Purchase Order to the awarded vendor for the Pine Bluff (Wilson) Refuse Project. If selected, POTESTA stands ready to meet your timeframe.

# **Project Budget Control**

The project manager will be responsible for monitoring the project budget and keeping the principal-in-charge informed of its status. POTESTA's staff enters time into POTESTA's InFocus computer system on a daily and/or weekly basis. POTESTA's project managers can access InFocus at any time, thus allowing "real-time" control of project costs. In addition, field representatives routinely keep track of subcontractor costs on a daily basis. Thus we can, in effect, keep track of the total project costs on a weekly basis. Our subcontractors commonly invoice at monthly intervals and there is seldom a discrepancy between our field representative's pay items and our subcontractor's invoice.

# **Schedule Control**

Direct responsibility for schedule control lies with the project manager. Initially, the project manager will review schedule requirements (understood to be 60 days for submittal of preliminary design documents) to see how they can be achieved given the anticipated scope of work. 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 make it impossible to maintain the project schedule, the project manager will contact the WVDEP project manager to develop a mutually acceptable adjustment to the schedule and/or work plan.

# **Location of Facilities**

POTESTA will complete the work under this contract in our Morgantown, West Virginia office. Our subcontractors are located in the Morgantown area or other strategic locations and are quite familiar with the coalfields of West Virginia where the Pine Bluff (Wilson) Refuse Project is located.

# **Quality Assurance/Quality Control**

Submittals to the WVDEP will be reviewed and commented on by the project manager and the principal-in-charge prior to submittal to the WVDEP. Both the project managers and the principal-in-charge have worked on numerous WVDEP, AML projects, and thus understand the level of detail and expectations for WVDEP, AML projects. POTESTA utilizes standardized Quality Assurance/Quality Control (QA/QC) practices such as consistency checks, color coding of checked copies/calculations, and review of method of measurements versus quantity tallies to insure QA/QC expectations are met.

# 2.0 REFERENCES

Mr. Darren Bennett - WVDEP - AML, Bridgeport, WV Office	304-842-1900
Mr. Malcom Allison - WVDEP - AML, Bridgeport, WV Office	304-842-1900
Mr. Nick Estes – WVDEP – AML, Charleston, WV Office	304-926-0466
Mr. Roger Earle – WVDEP – AML, Charleston, WV Office	304-926-0499

## 3.0 CLOSING

We look forward to continuing to serve WVDEP, AML on the Pine Bluff (Wilson) Refuse Project and bring it to completion. Our commitment is to provide quality service, rapid response and project completion, and to exceed your expectations for services performed under this project. We believe the track record of our professionals demonstrates our ability and commitment.

**KCOLLINS** 

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 03/14/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(les) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

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		ndatory in NH)	"''	İ					E.L. DISEASE - EA EMPLOYEE	\$	1,000,000
	If yes	s, describe under CRIPTION OF OPERATIONS below							E.L. DISEASE - POLICY LIMIT	\$	1,000,000
D	Pro	fessional Liab.			MKLV7PL0003081		03/07/2018	03/07/2019	Per Claim/Aggregate		5,000,000
	<u>.</u>										
DES	CRIPT	TON OF OPERATIONS / LOCATIONS / VEHIC	LES (A	CORD	101, Additional Remarks Schedu	le, may b	e attached if mor	e space is regulr	red)		
FOIL	ulion	Liability is included in the Profes	SICTIZI	LIZU	inty policy and shares the	mmes p	er the poscy	terms and co	onunions.		- 1
											İ
									·		
CE	RTIF	FICATE HOLDER				CANC	ELLATION				
		EVIDENCE OF COVERAGE				THE	EXPIRATION	DATE TH	ESCRIBED POLICIES BE CA IEREOF, NOTICE WILL E Y PROVISIONS.		
							AUTHORIZED REPRESENTATIVE				

ACORD



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

# State of West Virginia Centralized Expression of Interest

02 - Architect/Engr

Proc Folder: 425927

Doc Description: Addendum No.01 EOI - Pine Bluff (Wilson) Refuse - EPAM16038

Proc Type: Central Purchase Order

 
 Date Issued
 Solicitation Closes
 Solicitation No
 Version

 2018-06-07
 2018-07-10 13:30:00
 CEOI
 0313 DEP1800000004
 2

BID RECEIVING LOCATION

**BID CLERK** 

**DEPARTMENT OF ADMINISTRATION** 

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

W

25305

US

## VENDOR

Vendor Name, Address and Telephone Number:

Potesta & Associates, Inc. 125 Lakeview Drive Morgantown, West Virginia 26508

(304) 225-2245

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham (304) 558-2157

brittany.e.ingraham@wv.gov

Signature X

FEIN# 311509066

**DATE July 6, 2018** 

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

Page: 1

FORM ID: WV-PRC-CEOI-001

## Addendum

Addendum No.01 issued to publish and distribute the attached information to the vendor community.

Expression of Interest (DEP Pine Bluff (Wilson) Refuse Project)

The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, The Department of Environmental Protection (WVDEP) from qualified firms to provide engineering services and other related professional services per the bid requirements, specifications, and terms and conditions as attached hereto.

\* Online submission of Expression of Interest are Prohibited.\*

INVOICE TO	The second secon	SHIP TO	Commence of the second
ENVIRONMENTAL PROTE	CTION	ENVIRONMENTAL PROT	FECTION
601 57TH ST SE		601 57TH ST SE	
CHARLESTON	WV25304	CHARLESTON	WV 25304
us		us	

Line	Comm Ln Desc	Qty	Unit Issue	
1	EOI Engineering Design Services			_

Comm Code	Manufacturer	Specification	Model #	
81100000				

## **Extended Description:**

<sup>\*</sup>Dates of Service are estimated for bidding purposes only.

# SOLICITATION NUMBER: CEOI DEP1800000004 Addendum Number: No.01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

# **Applicable Addendum Category:**

[4	[]	Modify bid opening date and time
[	1	Modify specifications of product or service being sought
I	1	Attachment of vendor questions and responses
[	1	Attachment of pre-bid sign-in sheet
[	1	Correction of error
[/	1	Other

# **Description of Modification to Solicitation:**

Addendum issued to publish and distribute the attached documentation to the vendor community.

THE PURPOSE OF THIS ADDENDUM IS TO CHANGE THE FOLLOWING:

Question Deadline: WAS 06/05/2018 at 9 AM EST, IS NOW 06/28/2018 at 9 AM EST Bid Opening Date: WAS 06/12/2018 at 1:30 PM EST, IS NOW 07/10/2018 at 1:30 PM EST Buyer: WAS Guy Nisbet, IS NOW Brittany Ingraham

Email: Brittany.E.Ingraham@wv.gov

No other changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

## Terms and Conditions:

- 1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
- 2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

# ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.:

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

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

(01100	AL GAI		A HOAL TO GOOT ACCORDING	10001100	,	
	[~	/]	Addendum No. 1	[	]	Addendum No. 6
	[	]	Addendum No. 2	[	]	Addendum No. 7
	Į	]	Addendum No. 3	[	]	Addendum No. 8
	[	]	Addendum No. 4	[	]	Addendum No. 9
	ſ	1	Addendum No. 5	ſ	1	Addendum No. 10

Addendum Numbers Received:

(Check the how next to each addendum received)

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				
Sana L. Burns				
Authorized Signature				
July 9, 2018				
Date				

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

Revised 6/8/2012



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

# State of West Virginia Centralized Expression of Interest 02 — Architect/Engr

Proc Folder: 425927

Doc Description: EOI - Pine Bluff (Wilson) Refuse - EPAM16038

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitat	ion No	Version
2018-05-1	5 2018-06-12 13:30:00	CEOI	0313 DEP1800000004	1

BID RECEIVING LOCATION

**BID CLERK** 

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV

25305

US

VENDOR

Vendor Name, Address and Telephone Number:

Potesta & Associates, Inc. 125 Lakeview Drive Morgantown, West Virginia 26508

(304) 225-2245

FOR INFORMATION CONTACT THE BUYER

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

Signature X

FEIN# 311509066

**DATE** July 9, 2018

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

Page: 1

FORM ID: WV-PRC-CEOI-001

## ADDITIONAL INFORMATION:

Expression of Interest (DEP Pine Bluff (Wilson) Refuse Project)

The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, The Department of Environmental Protection (WVDEP) from qualified firms to provide engineering services and other related professional services per the bid requirements, specifications, and terms and conditions as

attached hereto.

\* Online submission of Expression of Interest are Prohibited.\*

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTOFFICE OF AML&R	FECTION	ENVIRONMENTAL PROTECTION OFFICE OF AML&R	N
601 57TH ST SE		601 57TH ST SE	
CHARLESTON	WV25304	CHARLESTON	WV 25304
us		us	

Line	Comm Ln Desc	Qty	Unit Issue	
1	EOI Engineering Design Services			

Comm Code	Manufacturer	Specification	Model #	
81100000				

## **Extended Description:**

<sup>\*</sup>Dates of Service are estimated for bidding purposes only.

	Document Phase	Document Description	Page 3
DEP1800000004	Final	EOI - Pine Bluff (Wilson) Refuse -	of 3
		EPAM16038	

# ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

Contract Administrator and the initial point of contact for matters relating to this Contract.

(Name, Title)

Dana L. Burns, Vice President

(Printed Name and Title)

125 Lakeview Drive, Morgantown, West Virginia 26508

(Address)

(304) 342-1400 / (304) 343-9031

(Phone Number) / (Fax Number)

dlburns@potesta.com

(email address)

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the

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	
(Authorized Signature) (Representative Name, Title)	
(Dana L. Burns, Vice President)	
(Printed Name and Title of Authorized Representative)	
July 9, 2018	
(Date)	
(304) 342-1400 / (304) 343-9031	
(Phone Number) (Fax Number)	

# ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.:

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

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

Addendum Numbers Received: (Check the box next to each addendum received)	red)
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
Tanasa understatio mat ally verbal represents	of addenda may be cause for rejection of this bid. tion made or assumed to be made during any oral ves and any state personnel is not binding. Only the specifications by an official addendum is
Potesta & Associates, Inc.	
Company Ana L. Burns	
Authorized Signature	
July 9, 2018	
Date	
NOTE: This addendum acknowledgement shou	ld be submitted with the hid to expedite

document processing.

# West Virginia Ethics Commission



# **Disclosure of Interested Parties to Contracts**

Pursuant to W. Va. Code § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$100,000 or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing Interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation.

"Interested party" or "Interested parties" means:

(1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;

(2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company): and

(3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of W. Va. Code § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

# West Virginia Ethics Commission Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

	ess Entity: Totosta & Asse	ociates, Inc.	Address:	125 Lakeview Drive
				Morgantown, West Virginia 26508
Authorized Agent:	Dana L. Burns, Vice Pre	esident	Address:	7012 MacCorkle Avenue, SE Charleston, West Virginia 25304
Contract Number:	CEOI 0313 DEP1800000	0004 Contr	act Descrip	tion: DEP Pine Bluff (Wilson) Refuse Project
Governmental age	ncy awarding contract: ${ootnotesize {ootnotesize {ootnotesize {ootnotesize {\ootnotesize {\oot$	DEP-Office of	AML & Re	clamation
☐ Check here if the	nis is a Supplementai Discid	osure .		
List the Names of Int entity for each categ	erested Parties to the contract ory below <i>(attach additional p</i>	t which are know pages if necessa	n or reasona ry):	bly anticipated by the contracting business
1. Subcontractors  Check here if	or other entities performing none, otherwise list entity/indi	<b>g work or servi</b> cividual names be	ce under the slow.	• Contract
2. Any person or e	ntity who owns 25% or more none, otherwise list entity/indi	re of contracting	g entity (not	applicable to publicly traded entities)
sel Alces Leisfen	entity that facilitated, or no to the negotiation or draftir one, otherwise list entity/indiv	ng of the applic	able contra	applicable contract (excluding legal ct)
Signature:	na L. Burns		Date Signed	· July 9, 2018
Signature: Notary Verificat			Date Signed	July 9, 2018
Notary Verificat	ion		<b>Date Signed</b> Kanawha	
Notary Verificate State of West Virg	<b>ion</b> inia	, County of	Kanawha	
Notary Verificate State ofWest Virg  I,	inia  Burns ing duiy sworn, acknowledge ubscribed before me this	, County of e that the Disclor	Kanawha, the autisure herein is	·

# STATE OF WEST VIRGINIA **Purchasing Division**

# **PURCHASING AFFIDAVIT**

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

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

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

## **DEFINITIONS:**

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

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being In policy default, as defined in W. Va. Code § 23-20-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the insurance Commissioner and remains in compilance with the obligations under the repayment agreement.

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

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

# WITNESS THE FOLLOWING SIGNATURE: Potesta & Associates, Inc. Vendor's Name: Authorized Signature: Date: July 9, 2018 State of West Virginia County of Kanawha to-wit: Taken, subscribed, and sworn to before me this day of My Commission expires AFFIX SEAL HERE OFFICIAL STAL Rhanda L. Henson Notary Public State of West Virginia

My Commission Expires February 14, 2024 978 Wolf Pen Drive Charleston, WV 25312

Purchasing Affidavit (Revised 01/19/2018)

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION						
AML CONSULTANT QUALIFICATION QUESTIONNAIRE Attachment "B"						
PROJECT NAME		DATE (DAY, MONT			FEIN	
Pine Bluff (Wilson) Refu	se	06, July,	2018		3115	09066
FIRM NAME		2. HOME OFFICE	BUSINESS ADDRESS		3. FORMER	FIRM NAME
			rkle Avenue, SE			
Potesta & Associates, In			, West Virginia	25304	N/A	
4. HOME OFFICE TELEPHONE (304)342-1400	5. ESTABL	ISHED (YEAR)	6. TYPE OWNERSH Individual Partnership	Corpora Joint-V		6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES
7. PRIMARY AML DESIGN OFFICE:	ADDRESS/ '	relephone/ persoi	N IN CHARGE/ NO.	AML DES	IGN PERSON	VEL EACH OFFICE
l .						
125 Lakeview Drive, Morgant			(304) 225-2245/	Dana L.	Burns, Vic	ce President President/ 3
8. NAMES OF PRINCIPAL OFFICER		RS OF FIRM	8a. NAME, TITLE	, & TELE	PHONE NUMB	ER - OTHER PRINCIPALS
Ronald Potesta, President Dana L. Burns, Vice Presi			N/A			
9. PERSONNEL BY DISCIPLINE	49110		М/А			
9. PERSONNEL BI DISCIPLINE						
10 ADMINISTRATIVE ARCHITECTS 7 BIOLOGISTS 6 CADD OPERATORS 1 CHEMICAL ENGINEERS 16 CIVIL ENGINEERS 10 CONSTRUCTION INSPECTORS DESIGNERS 1 DRAFTSMEN	2 ECOLOGI 1 ECONOMI ELECTRI 5 ENVIROI ESTIMAI 1 GEOLOGI HISTORI HYDROLG	ISTS ICAL ENGINEERS NMENTALISTS FORS GISTS LANS	LANDSCAPE  1 MECHANICA 2 MINING PHOTOGRAM PLANNERS SANITARY SOILS ENG SPECIFICA WRITERS	AL ENGINEER ENGINEER MMETRIST: : URBAN/I ENGINEER GINEERS	EERS RS S REGIONAL	STRUCTURAL ENGINEERS  7 SURVEYORS TRAFFIC ENGINEERS 1 HORTICULTRUALIST 4 GEOTECHNICAL ENGINEERS 2 FISH & WILDLIFE SPECIALISTS 1 GIS SPECIALIST 1 AQUA CULTURALIST 1 INFORMATION TECHNOLOGIST 1 CHEMIST OTHER
TOTAL NUMBER OF WV REGISTANCE TO TALL NUMBER OF WV REGISTANCE AND CIVIL REGISTANCE TO THE REGISTANCE OF THE REGISTANCE O	and Mining	must provide sur	ERS IN PRIMARY OF	FFICE:	3_nat qualif	81 TOTAL PERSONNEL es them to
	<del></del> .	<del></del>				
		<u> </u>				
10. HAS THIS JOINT-VENTURE WOR	RKED TOGETH	ER BEFORE?	YES NO	N/A		

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTA	NTS ANTICIPATED TO BE USED. Attach "AML C	Consultant Qualification Questionnaire".
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
Keddal Aerial Mapping 1121 Boyce Road, Suite 3100 Pittsburgh, Pennsylvania 15241	Aerial Photography and Mapping	X_ Yes
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
Sturm Environmental Services, Inc.	Environmental and Coal Related Laboratory	XYes
Brushy Fork Road  Bridgenort, West Virginia, 26220		
Bridgeport, West Virginia 26330  NAME AND ADDRESS:	SPECIALTY:	No WORKED WITH DEFORE
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
Test Boring Services 140 Mong Road	Soils and Rock Boring	XYes
Scenery Hill, Pennsylvania 15360		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
CTL of WV, Inc. 510 C Street	Soils and Concrete Testing	XYes
South Charleston, West Virginia 25303		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
	71	Yes
		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		Yes
		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		Yes
		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		Yes
		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		Yes
		No

- 12. A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?
  - YES Description and Number of Projects: POTESTA's principal-in-charge, Dana L. Burns, P.E. and three project manager, Messrs. Mark Kiser, P.E., Terence Moran, P.E., and Tim Rice, E.I.T. have each worked on over 70 AML projects dating back to 1986, including landslide exploration and abatement, mine subsidence stabilization projects, acid mine drainage treatment, refuse piles, mine drainage, mine portal seal, and water supply projects. POTESTA has 15 staff with experience on AML projects. POTESTA's principal engineers extensive experience with preparing design plans for refuse piles. Many of the previous AML projects won reclamation awards including: Bear Run Refuse; Kimball Refuse Piles; Owings Mine Complex; Pine Creek (Omar) Refuse; Turner-Douglas Complex; and Grass Run Refuse. These projects were completed by Dana Burns, Mark Kiser, and Terry Moran.

NO

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: POTESTA's staff is experienced in all aspects of soil analysis, including geotechnical and environmental soil analysis. POTESTA's staff has worked on 30+ AML projects involving soil science, including slope stability and revegetation. POTESTA is experienced in soil analysis as it relates to this project. POTESTA's principal engineers have developed and implemented plans for nutrient and lime requirements testing to determine revegetation requirements, acid-base accounting of rock samples to evaluate the potential of excavated materials to generate acidity, and analysis of coal refuse to determine the potential for reprocessing.

NO

- C. Is your firm experienced in hydrology and hydraulics?
- YES Description and Number of Projects: POTESTA's staff is experienced in hydrology and hydraulics as it relates to AML projects in West Virginia. POTESTA's staff has worked on over 70 AML projects that involved sizing channels, culverts, and waterlines. POTESTA has developed well over 100 storm water management plans for mines, industrial facilities and new site development projects throughout West Virginia.

NO

- D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?
- YES Description and Number of Projects: POTESTA's staff routinely develop contour mapping for use with design. We subcontract aerial mapping development but complete the ground control necessary for developing mapping. On smaller projects, we perform the topographic survey work and subsequently develop the contour mapping. POTESTA has completed 200+ mapping development projects in the last five years.

NO

- E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)
- Description and Number of Projects: POTESTA's staff is exceptionally experienced at domestic waterline design. POTESTA's staff has worked on waterline designs and water treatment plant designs for municipalities, WVDEP AML, and private utilities. POTESTA's staff includes one project manager, Terence C. Moran, P.E., who has managed design of numerous AML waterlines, including 20+ mile Cow Creek-Sarah Ann Extension and 30+ mile/2,800 GPM Water Treatment Plant Mill Creek Regional Water Supply project. We are also exceptionally well qualified to evaluate aquifer degradation, including aquifer degradation by AML sites. Our staff has worked on 80+ evaluations of aquifer degradation. POTESTA has performed over 40 water line design projects totaling several hundred miles of installed water line.

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: POTESTA has completed numerous projects addressing acid mine drainage evaluation and abatement design. POTESTA's staff has worked on 30+ projects involving AMD evaluation and 10+ projects involving AMD abatement design. In both cases, many of the projects involved AML sites. We have worked extensively with Anker Energy, Dominion Generation, and the WVDOH, among others with acid-base accounting evaluations and the subsequent development of plans to prevent/abate AMD generation. Additionally, we worked extensively with Elk Run Coal Company to devise a plan to limit AMD generation and to treat the remaining AMD.

13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPON	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete				
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE					
Burns, Dana L. Vice President	YEARS OF AML DESIGN EXPERIENCE: 26	YEARS OF AML RELATED DESIGN EXPERIENCE: 35	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 24				
Brief Explanation of Responsibilities  Mr. Burns will serve as principal-in-charge for this project with his significant experience with AML type projects.  Mr. Burns has served as the project manager or principal-in-charge on three open end contracts for WVDEP, AML from 1986 through 1997, totaling over 60 projects. He will ensure the personnel required to efficiently complete this project will be identified. He will coordinate contract issues with the State of West Virginia.							
EDUCATION (Degree, Year, Specialization MS, 1979, Civil Engineering wis BS, 1978, Civil Engineering	th Environmental Engineering 1						
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  West Virginia Coal Association  American Society of Civil Engineers  West Virginia Association of Consulting Engineers  American Consulting Engineering Council - Trans Committee							
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPON		(Furnish complete				
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE					
Kiser, D. Mark Chief Engineer	YEARS OF AML DESIGN EXPERIENCE: 23	YEARS OF AML RELATED DESIGN EXPERIENCE: 30	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 24				
Brief Explanation of Responsibilities	s						
As Chief Engineer, with significant experience in coal refuse stabilization design and mine portal closures and drainage channelization, he will serve as a project manager. Mr. Kiser will also provide constructability reviews and QA/QC for the various draft submissions and final construction documents.							
EDUCATION (Degree, Year, Specializati	ion)						
BS, 1984, Civil Engineering							
MEMBERSHIP IN PROFESSIONAL ORGANIZATI	IONS	REGISTRATION (Type, Year, Sta	ite)				
		PE, 1990, WV PE, 1998, IN PE, 1998, SC Licensed Remediation Sp	pecialist, 1998, WV				

data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)	<del></del>	VENDO OF TUDENTIAL		
WALL & IIIDE (Base, Filse, Middle Inc.)	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN	YEARS OF DOMESTIC	
Moran, Terence C.		EXPERIENCE:	WATERLINE DESIGN	
Senior Engineer	22	25	EXPERIENCE: 2	
Brief Explanation of Responsibilities	es			
Mr. Moran will serve as project mana subconsultants. Mr. Moran has serve between 1989 and 1999. More recentl including water studies and reclamat will also serve as one of the principal	ed as a project engineer/proje ly, he has served as principal tion plans. He will set the s	ect manager for over 60 AML p engineer and project manage chedule and ensure it is met	projects in West Virgingrapher for WVDEP-AML project	
EDUCATION (Degree, Year, Specializat	tion)		<u> </u>	
	,			
MS, 1989, Civil Engineering BS, 1987, Civil Engineering				
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	TIONS	REGISTRATION (Type, Year, S	(tate)	
			,	
American Society of Civil Engi	ineers	PE, 1996, WV		
13. PERSONAL HISTORY STATEMENT OF PR	RINCIPALS AND ASSOCIATES RESPO	PE, 1998, VA	N (Furnish complete	
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	RINCIPALS AND ASSOCIATES RESPO	PE, 1998, VA	N (Furnish complete	
		PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE		
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)	RINCIPALS AND ASSOCIATES RESPO	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN	YEARS OF DOMESTIC	
data but keep to essentials)		PE, 1998, VA  NSIBLE FOR AML PROJECT DESIG  YEARS OF EXPERIENCE		
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A.  Senior Engineer	YEARS OF AML DESIGN EXPERIENCE:	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A.  Senior Engineer  Brief Explanation of Responsibilities	YEARS OF AML DESIGN EXPERIENCE: 24	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:  24	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A.  Senior Engineer	YEARS OF AML DESIGN EXPERIENCE:  24  engineer, including completing, and cost estimates. Mr. Tay iation, refuse fill and slurry also served as a branch mana	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:  24  field work, design, and pre- lor has project engineer exp  pond reclamation, abandoned	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19  paration of drawings, erience in AML project	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A. Senior Engineer  Brief Explanation of Responsibilities  Mr. Taylor will serve as a project etchnical specifications, bid forms, consisting of emergency slide remedislurry pond reclamation. Mr. Taylor	YEARS OF AML DESIGN EXPERIENCE:  24  engineer, including completing, and cost estimates. Mr. Tay iation, refuse fill and slurry also served as a branch manand reclamation.	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:  24  field work, design, and pre- lor has project engineer exp  pond reclamation, abandoned	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19  paration of drawings, erience in AML project	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A. Senior Engineer  Brief Explanation of Responsibilities  Mr. Taylor will serve as a project etchnical specifications, bid forms, consisting of emergency slide remedislurry pond reclamation. Mr. Taylor surface mining permitting, design and	YEARS OF AML DESIGN EXPERIENCE:  24  es  engineer, including completing, and cost estimates. Mr. Tay iation, refuse fill and slurry c also served as a branch mana nd reclamation.	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:  24  field work, design, and pre- lor has project engineer exp  pond reclamation, abandoned	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19  paration of drawings, erience in AML projec portal closures, and	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A. Senior Engineer  Brief Explanation of Responsibilities  Mr. Taylor will serve as a project etchnical specifications, bid forms, consisting of emergency slide remedislurry pond reclamation. Mr. Taylor surface mining permitting, design and EDUCATION (Degree, Year, Specializate MS, 2006, Engineering Management)	YEARS OF AML DESIGN EXPERIENCE:  24  es  engineer, including completing, and cost estimates. Mr. Tay iation, refuse fill and slurry c also served as a branch mana nd reclamation.	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:  24  field work, design, and pre- lor has project engineer exp  pond reclamation, abandoned	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19  paration of drawings, erience in AML projec portal closures, and firm responsible for	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Taylor, Patrick A. Senior Engineer  Brief Explanation of Responsibilities  Mr. Taylor will serve as a project etchnical specifications, bid forms, consisting of emergency slide remedislurry pond reclamation. Mr. Taylor surface mining permitting, design and EDUCATION (Degree, Year, Specializated MS, 2006, Engineering Management BS, 1988, Civil Engineering	YEARS OF AML DESIGN EXPERIENCE:  24  es  engineer, including completing, and cost estimates. Mr. Tay iation, refuse fill and slurry c also served as a branch mana nd reclamation.  Eion)  ent	PE, 1998, VA  NSIBLE FOR AML PROJECT DESIGN  YEARS OF EXPERIENCE  YEARS OF AML RELATED DESIGN  EXPERIENCE:  24  field work, design, and pre lor has project engineer exp pond reclamation, abandoned ger for a private consulting	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 19  paration of drawings, erience in AML projec portal closures, and firm responsible for	

13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete			
			<u></u>			
NAME & TITLE (Last, First, Middle Int.)	VIDAG OF NA DEGRAM ENDED TO	YEARS OF EXPERIENCE				
Potesta, Ronald R. President	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:			
Brief Explanation of Responsibilitie	s					
As President, Mr. Potesta directs th WVDEP.	74	to meet the complete requireme	ents of this project for			
EDUCATION (Degree, Year, Specializat	ion)	***				
MS, 1975, Economics with a Con BS, 1971, Business Administrat	ion	cs, Econometrics, and Micro Ec	conomics			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS Commissioner, Ohio River Valley Water Sanitation Commission; Board of Directors, WV Chapter of the Nature Conservancy; National Institute for Chemical Studies; WV Environmental Institute; WV Manufacturers Association						
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete			
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE				
Sharp, David B. Morgantown Branch Manager	YEARS OF AML DESIGN EXPERIENCE:		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 24			
Brief Explanation of Responsibilitie	S					
Brief Explanation of Responsibilities  Mr. Sharp will serve as a project manager for this project with his significant experience with AML type projects throughout the region. Mr. Sharp has served as the Branch Manager in Morgantown for 11 years. He will ensure the personnel required to efficiently complete this project will be identified. He will coordinate contract issues with the State of West Virginia. Mr. Sharp has worked on and managed AML projects and has spent most of his career involved in geotechnical engineering and construction management projects.						
EDUCATION (Degree, Year, Specializat	ion)					
MS, 1995, Civil Engineering wi BS, 1993, Civil Engineering	-	ing Emphasis				
MEMBERSHIP IN PROFESSIONAL ORGANIZAT		REGISTRATION (Type, Year, Sta	ate)			
West Virginia Coal Association American Society of Civil Engi: West Virginia Association of C American Consulting Engineerin	neers onsulting Engineers		2001, KY 2001, OH			

12 PERCONAL MICHORY CHAMINGTON OF DR		<del> </del>					
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete				
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE					
Grose, Christopher A. Senior Engineering Associate	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 24	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 16				
Brief Explanation of Responsibilitie	s						
Mr. Grose will coordinate the drilling and geotechnical analysis for slope stability design, identification of borrow sites for soil cover, and investigation and design of solutions for subsurface hydrogeology within the deep mines and recommendations for mine seals.							
EDUCATION (Degree, Year, Specializat	ion)						
MS, 1990, Geological Engineering BS, 1988, Civil Engineering							
MEMBERSHIP IN PROFESSIONAL ORGANIZAT		REGISTRATION (Type, Year, Sta	ate)				
American Society of Civil Engin Association of Engineering Geo Society of American Military En	logy	Licensed Remediation Sp	pecialist, 1998, WV				
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPON	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete				
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE					
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN	YEARS OF DOMESTIC				
Rice, Timothy M. Senior Engineer	31	EXPERIENCE: 35	WATERLINE DESIGN EXPERIENCE: 31				
Brief Explanation of Responsibilities	S						
As senior engineer and primary contact, Mr. Rice will communicate between WVDEP and the design teams, subcontractors, and project advisors for this project. His 28 years of AML projects in West Virginia, Maryland, Ohio and Pennsylvania and various types of projects will provide the technical knowledge and experience to complete this AML project.							
EDUCATION (Degree, Year, Specialization	ion)						
BS, 1982, Civil Engineering							
MEMBERSHIP IN PROFESSIONAL ORGANIZATI	IONS	REGISTRATION (Type, Year, Sta	ate)				
		WV EI :					

data but keep to essentials)				
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE			
Ward, Patrick E.	YEARS OF AML DESIGN EXPERIENCE	: YEARS OF AML RELA EXPERIENCE:		YEARS OF DOMESTIC WATERLINE DESIGN
Senior Engineer	10		17	EXPERIENCE: 8
Brief Explanation of Responsibilitie	es			
Mr. Ward will serve as a project enc project engineer on refuse piles, mi	gineer and has extensive expe ine drainage, and subsidence	rience on WVDEP, a projects in the ea	AML projects, arly to mid-1	having served as a 990's.
EDUCATION (Degree, Year, Specializat	cion)			
MS, 1992, Civil Engineering (GBS, 1990, Civil Engineering	Geotechnical)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)		
		PE, 1997, WV		
		PE, 1997,	WV	
12 DED CONAT LITCHORY CHAMEMENT OF DE	TWO TO A AND A GOOD A THE COURT OF THE COURT	<u></u>		
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	RINCIPALS AND ASSOCIATES RESP	<u></u>		(Furnish complete
data but keep to essentials)	RINCIPALS AND ASSOCIATES RESP	<u></u>	ROJECT DESIGN	(Furnish complete
data but keep to essentials) NAME & TITLE (Last, First, Middle Int.)	RINCIPALS AND ASSOCIATES RESP YEARS OF AML DESIGN EXPERIENCE	ONSIBLE FOR AML PI  YEARS OF EXPERIENCE YEARS OF AML RELA	ROJECT DESIGN	YEARS OF DOMESTIC
data but keep to essentials)		ONSIBLE FOR AML PI	ROJECT DESIGN	
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Litwinowicz, Dennis L.  Senior Scientist	YEARS OF AML DESIGN EXPERIENCE	ONSIBLE FOR AML PI  YEARS OF EXPERIENCE YEARS OF AML RELA	ROJECT DESIGN RIENCE TED DESIGN	YEARS OF DOMESTIC WATERLINE DESIGN
NAME & TITLE (Last, First, Middle Int.)  Litwinowicz, Dennis L.	YEARS OF AML DESIGN EXPERIENCE es	YEARS OF EXPERIENCE:	ROJECT DESIGN RIENCE TED DESIGN 34	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Litwinowicz, Dennis L.  Senior Scientist  Brief Explanation of Responsibilitie  Mr. Litwinowicz will serve as a projustiance on evaluation of other general	YEARS OF AML DESIGN EXPERIENCE es ect geologist, including obseologic activities.	YEARS OF EXPERIENCE:	ROJECT DESIGN RIENCE TED DESIGN 34	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Litwinowicz, Dennis L.  Senior Scientist  Brief Explanation of Responsibilitie  Mr. Litwinowicz will serve as a projustiance on evaluation of other general	YEARS OF AML DESIGN EXPERIENCE es ect geologist, including obseologic activities.	YEARS OF EXPERIENCE:	ROJECT DESIGN RIENCE TED DESIGN 34	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Litwinowicz, Dennis L.  Senior Scientist  Brief Explanation of Responsibilities  Mr. Litwinowicz will serve as a projugassistance on evaluation of other general serve.	YEARS OF AML DESIGN EXPERIENCE es ect geologist, including obseologic activities.	YEARS OF EXPERIENCE:	ROJECT DESIGN RIENCE TED DESIGN 34 rface explora	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: tion activities and

13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete		
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE				
TABLE & IIIDE (DOSC, FILSC, MINUTE IIIC.)	YEARS OF EXPERIENCE YEARS OF AML DESIGN EXPERIENCE: YEARS OF AML RELATED DESIGN YEARS OF DOMESTIC				
Dawson, Victor M. Survey Supervisor	14	EXPERIENCE: 32	WATERLINE DESIGN EXPERIENCE: 16		
Brief Explanation of Responsibilitie	S	<u> </u>			
Mr. Dawson will coordinate required benchmarks, topographic surveys, bou profiling significant existing drain survey data and create topographic m	ndary surveys and/or property age courses not clearly defin apping for AML projects.	and deed research, survey of	boring locations and		
EDUCATION (Degree, Year, Specializat	ion)				
AS, 1983, Surveying					
MEMBERSHIP IN PROFESSIONAL ORGANIZAT		REGISTRATION (Type, Year, St	ate)		
American Congress Surveying and Mapping West Virginia Association of Land Surveyors North Carolina Society of Surveyors South Carolina Society of Surveyors		PS, 1988, NC PS, 1989, SC PS, 1993, WV			
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	 NSIBLE FOR AML PROJECT DESIGN	(Furnish complete		
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE				
Sankoff, Michael B. CADD Designer/Supervisor	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 27	YEARS OF DOMESTIC WATERLINE DESIGN .EXPERIENCE: 16		
Brief Explanation of Responsibilitie	s				
Mr. Sankoff will provide the CADD su survey data to provide sufficient ma		ruction drawings for the proj	ect. He will reduce		
EDUCATION (Degree, Year, Specializat	ion)				
BS, 1987, Industrial Managemen AS, 1986, Drafting and Design AS, 1986, Mechanical Engineeri	Engineering Technology				
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	IONS	REGISTRATION (Type, Year, State)			
		, , , , , , , , , , , , , , , , , , , ,	•		

data but keep to essentials) NAME & TITLE (Last, First, Middle Int.)	Total Control of the	Anvertable of the second	
TARTE & IIIII (HABO, IIIDO, MIGAIO INC.,	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN	YEARS OF DOMESTIC
Ammirato, Robert J. Engineer	8	EXPERIENCE: 11	WATERLINE DESIGN EXPERIENCE: 11
Brief Explanation of Responsibilitie	25		
Mr. Ammirato will serve as a project calculations, layout, drawing prepar work. He has extensive experience i Mr. Ammirato was the project enginee	ration, design, technical spec n water supply and waste wate er on our Borderland (Matney)	ifications, bid forms, cost or system design, permitting	ectimates and field
EDUCATION (Degree, Year, Specializat BS, 1999, Mechanical Engineeri	ng		
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	IONS	REGISTRATION (Type, Year, St	tate)
		1	
		PE, 2010, WV	
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	N (Furnish complete
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials) NAME & TITLE (Last, First, Middle Int.)		NSIBLE FOR AML PROJECT DESIGN YEARS OF EXPERIENCE	
data but keep to essentials)	INCIPALS AND ASSOCIATES RESPON YEARS OF AML DESIGN EXPERIENCE:	NSIBLE FOR AML PROJECT DESIGN YEARS OF EXPERIENCE	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 11
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Smith, Jarrett M.	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Smith, Jarrett M.  Senior Engineer	YEARS OF AML DESIGN EXPERIENCE:  9  rely with development of hydrotruction permits. He also has	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:  11  logic and hydraulic calculating significant expertise in the	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 11
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Smith, Jarrett M. Senior Engineer  Brief Explanation of Responsibilitie  Mr. Smith has been involved extensiv preparation of NPDES stormwater cons grading plans and quantity/cost esti	YEARS OF AML DESIGN EXPERIENCE:  9  rely with development of hydrotruction permits. He also has mates. Mr. Smith was the pro-	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:  11  logic and hydraulic calculating significant expertise in the	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 11
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Smith, Jarrett M. Senior Engineer  Brief Explanation of Responsibilitie  Mr. Smith has been involved extensiv preparation of NPDES stormwater cons grading plans and quantity/cost esti AML project.	YEARS OF AML DESIGN EXPERIENCE:  9  rely with development of hydrotruction permits. He also has mates. Mr. Smith was the pro-	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:  11  logic and hydraulic calculating significant expertise in the	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 11
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Smith, Jarrett M. Senior Engineer  Brief Explanation of Responsibilitie  Mr. Smith has been involved extensiv preparation of NPDES stormwater cons grading plans and quantity/cost esti AML project.  EDUCATION (Degree, Year, Specializat	YEARS OF AML DESIGN EXPERIENCE:  9 rely with development of hydrotruction permits. He also has mates. Mr. Smith was the projection)	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:  11  logic and hydraulic calculating significant expertise in the	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 11  ions including he development of site ille (Cantrell) Drainage
data but keep to essentials)  NAME & TITLE (Last, First, Middle Int.)  Smith, Jarrett M. Senior Engineer  Brief Explanation of Responsibilitie  Mr. Smith has been involved extensiv preparation of NPDES stormwater cons grading plans and quantity/cost esti AML project.  EDUCATION (Degree, Year, Specializat BS, 2002, Civil Engineering	YEARS OF AML DESIGN EXPERIENCE:  9 rely with development of hydrotruction permits. He also has mates. Mr. Smith was the projection)	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE:  11  logic and hydraulic calculatis significant expertise in the ject engineer on our Taylorvi	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 11  ions including he development of site ille (Cantrell) Drainag

13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
Griffith, Chad	YEARS OF AML DESIGN EXPERIENCE:		YEARS OF DOMESTIC WATERLINE DESIGN
Staff Engineer	5	7	EXPERIENCE: 10
Brief Explanation of Responsibilitie	S		
Mr. Griffith has extensive experience mine plans and permitting.	e with site grading plans and	stormwater management. He al	lso has experience with
EDUCATION (Degree, Year, Specializat	ion)		
BS, 2004, Civil Engineering			
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	IONS	REGISTRATION (Type, Year, Sta	ate)
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete
NAME & TITLE (Last, First, Middle Int.)			
	VENDO OF AME DEGLOW EVDED TOWN	WENNER OF THE PERSON	
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brief Explanation of Responsibilitie	S		
EDUCATION (Degree, Year, Specializat	ion)		
MEMPERGITE THE PROPERCY ONLY OR CANTERN	TONG	DEGLECTOR A MICAN AND AND AND AND AND AND AND AND AND A	
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	TOINS	REGISTRATION (Type, Year, Sta	ite)

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES
Microsoft Office 2010 (Excel, Access, Word, PowerPoint) and Microsoft Office 2010 (Excel, Access, Word, PowerPoint)
WordPerfect 11
Adobe PageMaker 8 (Publication Software)
MicroStation (Allows users to create 3D models of permanent assets - the models and all of their components are electronic simulations of real-world objects); used for CADD drawing preparation.
Haestead Methods (Numerous software packages used for designing storm water structures [e.g., channels, culverts, ponds, etc.] and water distribution systems.)
MapTech, Terrain Navigator (Combines regional collections of topographic maps with powerful PC navigation software for 2D/3D viewing, customizing, printing and GPS use.)
Autodesk Civil 3D Design Software 2018 Used for preparing CADD drawings (3D modeling software that provides topographic analysis, real-world coordinate systems, volume totals, roadway geometry.)

#### 15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND	NAME AND ADDRESS OF	NATURE OF YOUR FIRM'S	ESTIMATED CONSTRUCTION	PERCENT COMPLETE
LOCATION	OWNER	RESPONSIBILITY	COST	<u> </u>
Kingwood Landfill, Landfill Closure Design Kingwood, WV	WVDEP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	Preparation of construction drawings, technical specifications, engineer's construction cost estimate, and calculations brief for closure of landfill.	\$6,000,000	98%
Chicopee Coal Company	WVDEP Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	Preparation of reclamation plan, drawings, specifications, bid form, engineer's construction cost estimate, and calculations brief.	\$6,000,000	99%
Boone County Public Service District Wastewater Treatment Plant Upgrade Boone County, WV	Boone County PSD PO Box 287 Danville, WV 25053	Final design of wastewater treatment plant upgrade.	\$4,000,000	75%
Town of Mill Creek Water System Improvements Mill Creek, WV	Town of Mill Creek High Street Mill Creek, WV 26280	Design of water line replacement including construction documents.	\$2,650,000	95%
Cowen Public Service District, Erbacon Water Line Extension	Cowen PSD 7017 Webster Road Cowen, WV 26206	Design of 8 mile water line extension including construction documents.	\$6,500,000	90%
West Virginia American Water Master Services Agreement	West Virginia American Water PO Box 1906 Charleston, WV 25327	Design of Olcott water line extension, construction monitoring of various water line construction projects, and river water study.	\$5,000,000	30%

Line Extension	NAME AND ADDRESS OF OWNER  Preston County PSD #2 c/o Kingwood Water Works 313 Tunnelton Street Kingwood, WV 26537	NATURE OF YOU RESPONSI Design and construction management of line extension	BILITY	ESTIMATED CONSTRUCTION COST \$2,801,344	PERCENT COMPLETE
Line Extension	c/o Kingwood Water Works 313 Tunnelton Street	construction management of line extension		\$2,801,344	95%
		lincluding 12 line and one gallon tank.	on, miles of		
Water Line Extension Preston County, WV	Preston County PSD #2 c/o Kingwood Water Works 313 Tunnelton Street Kingwood, WV 26537	Design and construction management of line extension including 9 multiples.	f water on,	\$2,190,000	5%
		·		,	
·					
TOTAL NUMBER OF PROJECTS	: pleted well over 1000 p.		TOTAL ESTIMA	ATED CONSTRUCTION COSTS:	\$29,291,344

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CON	STRUCTION COST
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
		,			
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17. COMPLETED WORK WITHIN LA	AST 5 YEARS ON WHICH YOUR FIRM WAS	THE DESIGNATED ENGINEER OF RECOR	PD.	
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
RCRA Corrective Action Closure Design, Various Environmental Remediation Projects Nitro, WV	Solutia, Inc. 1 Monsanto Road Nitro, WV 25143	\$17,000,000.	5	;
South Charleston Landfill, Landfill Closure Design South Charleston, WV	WVDEP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	\$2,500,000	2017	Yes
Cheyenne Coal Sales	WVDEP Office of Special Reclamation 47 School Street, Suite 301 Philippi, WV 26416	\$2,500,000	2017	YES
Flipping Hollow Complex Mercer County, WV	WVDEP 601 57th Street, SE Charleston, WV 25304	\$160,000	2013	Yes
East Lynn II Wayne County, WV	WVDEP 601 57th Street, SE Charleston, WV 25304	\$1,220,000	2013	Yes
MacArthur Subsidence Raleigh County, WV	WVDEP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	\$3,400,000	2014	Yes
Logan County PSD Feasibility Study Logan County, WV	WVDEP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	\$400,000	2014	Yes
Crany Mine Dump Wyoming County, WV	WVDEP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304	\$2,200,000	2016	Yes
Cake Lynn Complex Monongalia County, WV	WVDEP 101 Cambridge Place Bridgeport, WV 26330	\$700,000	2017	Yes

18. COMPLETED WORK W	ITHIN LAST 5 YEARS ON WH	ICH YOUR FIRM HAS BEEN A SUB-COM	SULTANT	TO OTHER FIRMS	(INDICATE PHASE
PROJECT NAME, TYPE AND LOCATION	CH YOUR FIRM WAS RESPONS: NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED
	o. own.	or room river b rouries.		(LIB OR NO)	AATTII
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19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program. Potesta & Associates, Inc.'s (POTESTA) "Expression of Interest for Professional Engineering Design Services and Construction Monitoring Services for the Mountain View Portals Project" supports this questionnaire in providing POTESTA's qualifications and resources for serving the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation on this project. In summary, POTESTA: 1. Has assembled a team of in-house personnel and subcontractors who have historically worked on AML projects. POTESTA's in-house staff includes 14 Professional Engineers including 11 in the primary office, three of whom have worked on over 75 AML projects. 24 Has a large local staff with a unique multidiscipline technical emphasis (including civil engineering, structural engineering, geological engineering, hydrological engineering, mine land reclamation, with a strong emphasis on water quality and aquatic life and toxicity). 3. Has 15+ employees with experience on WVDEP AML projects. POTESTA employees have worked on and have experience in the following type of WVDEP AML projects: Water Supply Feasibility Studies and Design Passive Acid Mine Drainage Treatment Assessment of Contamination (e.g., PCB's, asbestos) Reclamation of Refuse Piles Demolition of Structures Sealing Mine Portals Diversion Structures Stream Relocations Identifying Acid Mine Drainage Subsidence Assessment and Remediation Inventory of Residential Water Supplies USCOE Permitting Landslides Wetland Assessments Mine Fires 4. Can handle a substantial AML workload (more than our competitors) since POTESTA has three Professional Engineer (P.E.) Project Managers each with experience on 75+ AML projects. 5. Offices located in Charleston, West Virginia in close proximity to WVDEP's Charleston office, with offices in Morgantown, West Virginia close to WVDEP Bridgeport office and Winchester, Virginia. 6. Staff has had a positive relationship with WVDEP, AML in the past, which we would like to continue. 20. The foregoing is a statement of facts. Signature: Jana L. Dur Title: Vice President Date: 7/9/2018

Printed Name: DANA L. BURNS

	AML and RELATED PROJECT EXPERIENCE MATRIX																															
							PR	OJECT	EXPER	RIENCE	REQUI	REMEN	TS							PRIMA	RY STAFF	PARTIC	IPATION/	CAPACIT	Υ	***	M=Manag	rement l	P=Profes:	sional		
PROJECT	Exp. Basis C=Corp. P=Personnel *	Additional Info Provided in Section (s)	Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Nitigation/Replacement	Construction Inspection/Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Dana L. Burns	D. Mark Kiser	Terence C. Moran	John R. Spencer	Jason Gandee	Chris A. Grose	Michael Sankoff	Tim M. Rice	Jarrett Smith	Robbert Ammirato	Pat Taylor	David B. Sharp	Scott A. Bolyard	Chad Griffith	Peter Potesta
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Wolf Pen (Carpenter) Portals	С		_	<b>√</b>		<b>\</b>					1						_	_			_	_	_			_				_	-	
Laurel Branch (Weaver) Portals	C			<b>✓</b>	<b>✓</b>	-	<b>,</b>				1	,			,																	
WVDEP, OSR Cheyenne Sales Company, Inc.	С		<b>V</b>			<b>\</b>	<b>\</b>				\ <u></u>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			<b>√</b>		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		P	-	M,P	Р	-	P	-						-	
WVDEP, , WVDEP, AML Little Whitestick Refuse	C		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<b>✓</b>	<b>√</b>	<b>\</b>	<b>√</b>				1	1		-		7	1	M	P		_	P		P	-	-						
WVDEP, AML Crany Mine Dump	С	_	<b>\</b>			1		_			1	-				<b>-</b>			Р			P		P		-			- 14	_		$\overline{}$
WVDEP, AML Morgan Mine Fire	С		<b>✓</b>	<b>V</b>		1	<b>V</b>	<b>V</b>			1	1	_			$\vdash$	1	M		-	M,P	_			<del>   </del>	-			M	Р	Р	
Monumental Mine	C		-		-	7		-			7	7	-	_			7	M	<del> </del>	_	M,P		$\vdash$	-	-			-			P	
Lilly Parker Mine	С		$\vdash$			7					V /	7	-	-		$\vdash$	7				M,P		-				-		$\vdash$	-	P	
Barrackville Mine Expansion	С					7					V /	7				$\vdash$	7	M	-		M,P				-					_	P	
Jo Anne Permit Renewals	C					7		-			7	7				$\vdash$	7		<del></del>		M,P		-		$\vdash$						P	
Humphrey Limestone Quarry	С	-	$\vdash$			<b>V</b>	-		1	$\vdash$	7	7	_			$\vdash$	7	M	_	-	IVI,P	P				$\rightarrow$				-		
WVDEP, AML MacArthur Phase 2 Subsidence AML WVDEP, AML Lake Lynn Complex	C			1	1		-				<b>V</b>	1		_		$\vdash$	7	IVI	-	-		P			М	-1			M	Р		
			_	7	<u> </u>			_	1		Ž						-	М	M,P	-		P		P	IVI		-		IVI			_
WVDEP, AML MacArthur Mine Subsidence	С		_	7		<b>V</b>	-				7	-	_	_			1	M	M,P	-		P	-	Р	_	-		-			-	_
WVDEP, AML East Lynn II	С	_	-	<b>y</b>	Ĭ	<u> </u>		_			7	-		_		-	-	M	M.P	-	_	P	-	Р	-	-		-		_		-
WVDEP, AML Flipping Hollow Complex	С		$\vdash$	Ĭ	Ž			_		$\vdash$	<b>V</b>				1		1	_	M	-		P		Р						_		_
WVDEP, AML Sundial (Hatfield) RefusePiles Re-Bid	С			7		Ž		-		<del>-  </del>	7		_			$\vdash$	V	M	M	-		P	_	P	-	_				-+		_
WVDEP, AML Mill Creek Refuse Pile	C		-	7		7		1		$\vdash$	V	-		_		_	7	_	M			P	-	P		-					-	D
WVDEP, AML Clay Pages BSD Water Feesibility Study	С		$\vdash$	<b>y</b>	-	~		<u> </u>	_		_ <b>v</b>	1		-		-	-	M	101	-	$\rightarrow$	P		P					-	-+	=	P
WVDEP, AML Clay-Roane PSD Water Feasibility Study WVDEP, AML Burnsville PSD Water Feasibility Study	C			7		_			-			V						M	М		_	P								_	$\overline{}$	
WVDEP, AML Burnsville Pisgah Water Feasibility Study	C			<b>y</b>					_		_	7				$\vdash$		M	M	-		P				$\overline{}$				-	-	
WVDEP, AML Cuzzart/4-H Water Feasibility Study	С			J								1						M	М		-	Р				=						
WVDEP, AML Hudson/Mt. Nebo Water Feasibility Study	С			1		_		_				V						М	М			P		-								
WVDEP, AML Jessop Highwall #10	С	F	1		1	7					1	_					7	М	М			Р								-		
WVDEP, AML Lando (Edwards) Drainage	С	F	1	1	Ĭ	1					7						1	М	М			Р										
WVDEP, AML Taylorville (Cantrell) Drainage	С	F	-	7	Ĭ	J					1						1	М	М	-		Р				Р						
WVDEP, AML Borderland (Matney) Portals	С	F		J	Ĭ						1							М	М	-	$\overline{}$						Р			$\neg$		
WVDEP, AML Peach Ridge Complex	С		1	1							1	1			1			М	М			Р		Р								
WVDEP, AML Measle Fork Refuse	С		V	Ť		Ĭ					J				1	1	1	М	М			Р		Р			Р					
WVDEP, AML Georges Creek Portals	С	F		1	<b>V</b>	J					7							М	М			Р		Р			Р					
WVDEP, AML Putney Impoundment	С		1	1		7					7						1	М	М			Р								$\neg$		
WVDEP, AML Kopperston (John's Branch) Refuse Emergency	С		Ĭ			1					1							М	М							Р						
WVDEP, AML Marmet (Wells Drive) Landslide Emergency	С			<b>V</b>	<b>V</b>	1					1						1	М	М		Р		Р	Р			Р					
WVDEP, AML Marmet (Clark) Drainage	С			1	<b>√</b>	<b>V</b>					<b>V</b>							М	M			Р		Р								
WVDEP, AML Pringle Run #2	С		<b>V</b>	1		<b>V</b>					<b>V</b>				<b>√</b>		<b>V</b>	М	М			Р		Р								
WVDEP, AML Mountain Run Refuse and Portals	С	F			<b>V</b>	<b>V</b>					<b>√</b>				<b>√</b>		<b>V</b>	M	М											Р		
Dream Mountain AMD Project - Friends of the Cheat	С					<b>√</b>					<b>√</b>			<b>√</b>			<b>√</b>												М	Р		
Gary Connor AMD - Friends of the Cheat	С					<b>√</b>					<b>√</b>	<b>V</b>		<b>√</b>															М	Р		
WVDEP, AML Fairmont East Mine Drainage	С			<b>√</b>		<b>√</b>					<b>√</b>							M	М			Р										
WVDEP, AML Rachel Refuse	С	F	<b>√</b>			<b>√</b>	<b>√</b>								<b>✓</b>			M	М			Р		Р								
WVDEP, AML laeger Water Feasibility Study	С			<b>√</b>								<b>V</b>						М		М		Р		Р								
WVDEP, AML Burnwell, Standard, and Collinsdale Water Line Extension	С	F		<b>√</b>							<b>V</b>		<b>\</b>					М		M				Р			Р					
WVDEP, AML Morrisvale Cameo Preliminary Engineering	С											<b>V</b>								М				Р			Р					
May Portal (Virginía AML)	С	F.		<b>√</b>	<b>√</b>	<b>√</b>					1				<b>✓</b>			М				Р				$\perp$		М				
Webster County Water Studies	С					<b>√</b>						<b>V</b>						М								Р		М				
Mill Creek Phase III Waterline and Water Treatment Plant - AML	Р					<b>\</b>					1	<b>✓</b>		<b>✓</b>			<b>/</b>			М												
Cow Creek - Sarah Ann Phase III Water Line Extension	Р																			M												
Godby Branch Water Line Extension	Р															$\vdash$			Р	М												
Putnam County Commission - Fisher Ridge Phase II	С											ļ						М		М				Р		Р					$\blacksquare$	
Boone County PSD - Lick Creek Water Line Extension	С																	M		M				Р								
Boone County PSD - Joes Creek Water Line Extension	С																	М		M				Р								

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Boone County PSD - Six Mile Extension/Corridor G	С												М		М			Р	1					
Boone County PSD - Trace Branch/Robinson Water Line Extension	С												M		М			Р						
Boone County PSD - Stephens Auto/Betsy Lane Water Line Extension	С							1					М		М			Р						
Town of Ceredo - Water Distribution System Upgrade	С												M		M			Р		Р	Р			
WVAWC - Mifflin/Sharples Water Line Extension	С												M		M			Р		Р				
Town of Ceredo - Cemetery Hill Upgrade	С																							
WVAWC - Putnam County Water Supply Extension	Р						1						M		М									
WVAWC - Kanawha County Water Supply Extension	Р				<b>V</b>		<b>I</b>						M		М									
WVAWC - Cabell County Water Supply Extension	Р				<b>V</b>		1						M		M									
City of Philippi Upgrade to Water Distribution System	С	F			<b>V</b>		1						M		P			Р						
Philippi Water Line Relocation for WVDOH Bypass	С				<b>V</b>		<b>√</b>						М		Р			Р						
WVAWC - Route 60	С				1		1	1					М	Р				Р						
WVAWC - Route 60 Contract 4	С				1		1	1					M	Р				Р						
WVAWC - Buff Creek/Trace Fork	С				1		1	1					M	Р				Р						
WVAWC - Poca River	С				1		1	1	<b>V</b>				М	Р				Р						Co.
WVAWC - Cabell County Contract 6	С				1		1	1	1				М	Р	Р			Р						
WVAWC - Cabell County Contract 7	С				1		1	1	1				М	Р	Р			Р						
WVAWC - Fisher's Ridge Extension	С				1		1	1					М		Р			Р	1	Р				
WVAWC - Summers County Extension	С				1		1	1	V		$\neg$		М	Р										
WVAWC - Glade Springs Village	C				171		+ 7	1	_				M	P					1					
WVAWC - Spite Road	С			_	7		17	17	7				M		Р				1				-	
Beaver Creek Waterline Extension - AML	Р			-	<b>-</b>		1	1			-	_	M		P		P		1		$\overline{}$	_	$\neg$	
Cassity Fork Water Supply Extension - AML	Р				+ +		17				_		M	Р	P		P		1				$\neg$	
Gualey River Area Water Line Extension - AML	P			_	1		17					+	1	1	М	_			+					
Heizer/Manila Creek Water Line Extension - Aint.  Heizer/Manila Creek Water Line Extension Phase II Study - AML	P			-1-			17	1			_	_	1		М	+			1			_	-	
	P			_	1	<del>-   -   -   -   -   -   -   -   -   -  </del>	\ <del>\</del>	1	$\vdash$		$\overline{}$	1	1	1	M	+							_	
Reynoldsville/Wallace Water Supply Extension - AML	P				17	<del>-   -   -   -   -   -   -   -   -   -  </del>	+ <del>*</del>	+ 7	1			+ *	1		M	+			+	$\vdash$	-+		+	
Weaver-Junior Phase II Water Supply - AML	P			_	7		+	1	$\vdash$		_		1		M	+			+		-+	-	_	
Washington Heights to Jeffrey Phase II Water Study - AML				_	17	<del>-   -   -   -   -   -   -   -   -   -  </del>	+	1	$\vdash$		_		+	<del>                                     </del>	M	+ -			+	<del>                                     </del>	-+		_	
Reynoldsville, Wallace, and Clarksburg Phase II Water Study - AML	Р			_			+	1			_		+	<del>                                     </del>	M	+			+		-+		_	
Reynoldsville, Wallace, and Clarksburg Phase I Water Study - AML	Р		-	-	+		+	1		$\vdash$	_	-	+	1	M	+-			1		-+		+	-
Weaver-Junior Phase I Water Study - AML	Р			_	+		+-		$\vdash$	<del></del>	_	+	+	P	M	+			+		-	<del></del>	_	_
Gauley River Phase I Water Study - AML	Р			_	<del>                                     </del>		+	1	$\vdash$		-	+	+	-		+			+		$\rightarrow$		_	
Upper Rum Creek Phase II Water Study - AML	Р			_	🗸		+	<u> </u>	1		_	+	+	-	M	+			+	$\vdash$	$\rightarrow$		-	
Crooked Creek Phase II Water Study - AML	Р				1	+	+	1			_	-	+		M	+			+	$\vdash$	$\rightarrow$		+	
Mill Creek Regional Phase II Water Study - AML	Р			_	1		+		-		_	-	+	-	M	+			+	$\vdash$	-		_	
Cow Creek - Sarah Ann Phase II Water Study - AML	Р				<		-	1	$\vdash$		-	_	1	<del>  _  </del>	М	+			+	$\vdash$	-+	_	-	_
Phase I Water Studies Brooke and Fayette Counties (2 Projects) - AML	Р				<b> </b>	+	-	1	$\vdash$		-	+	M	P	Р	+			1	$\vdash$	-+	_	_	
Mill Creek Regional Water Project Phase II Water Study (Boone, Lincoln and Logan Counties) - AML	P				1		-	1				_	М	P	Р	-			+	$\vdash$	$\rightarrow$		-	_
Godby Branch Phase II Water Study - AML	Р				\		-	1				_	М	Р	P	+			1-	$\vdash$	-		_	
Putnam County Phase I Water Studies (3 Projects) - AML	Р		$\vdash$		-			1	$\vdash$				М	<b> </b>	Р	+			-		_		-	
Boone County Phase I Water Studies (10 Projects) - AML	Р							1					М	Р	Р									
Phase II Water Feasibility Studies for Logan County (3 Projects) - AML	Р				1		1	1					М	P	P	-			-	$\vdash$			_	
Phase I Water Studies for Logan County (7 Projects) - AML	Р				1	$\bot$	-	1					М	Р	Р	$\perp$	Р		1					
Spruce Lick-Stream Flow Monitoring Project for Eastern Assoicated Coal Corp AML	Р				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1	1					М	Р						$\vdash$				
Massy Coal Co. AMD Pump Treatment System	С				<b>V</b>		1			<b>√</b>			М										_	
Martin County Coal Co. Stream Flow & Fish Surveys-Coldwater Creek	С				1		1	1					4							$\square$			_	
Martin County Coal Co. Stream Flow & Fish Surveys-Wolf Creek Watershed	С				1			1								-			-		$\perp$			
Martin County Coal Co. Stream Flow & Fish Surveys- Rockcastle Creek	С				1			1																
Martin County Coal Co. Stream Flow & Habitat Survey-Coldwater Creek Fork Watershed	_ C				<b>V</b>			1																
Martin County Coal Co. Stream Flow & Habitat Survey-Wolf Creek Watershed	С				<b>V</b>			<b>V</b>											1					
Martin County Coal Co. Stream Flow & Habitat Survey-Rockcastle Creek Watershed	С				<b>√</b>			✓																
Don's Disposal Landfill Stream Flow Measurement	P				<b>V</b>			1																
Union Carbide Cooling Water Flow Measurement	С				<b>V</b>			<b>V</b>																the state
Union Carbide Davis Creek Flow Measurement	С				<b>V</b>			<b>V</b>																
Union Carbide Process Wastewater Flow Measurement	С				1			<b>V</b>																
MDG-Wastewater Package Plant	С				1		1	1		<b>√</b>		1	М						Р					
WVDEP-Flows at Various Facilities	Р				1			1																15
Arch Coal- Pigeon Creek Stream Flow Measurement	С				1			1																
City of Charleston-Sanitary Sewer Flow Measurement	С				1			1																
Pison Development Sanitary Sewer Flow Measurement	С				1			1																
Solutia-Storm Water Flow Measurement	С				1			1					1											120
Solutia-Groundwater Well Levels and Flow Estimates	С				7			1																
Chemical Plant - Parkersburg, WV	С				1		1						1											
Muddy Creek AMD Treatment System	С	F			1		1			1												М	$\neg$	
Sovem Run (Tinchnell) AMD Treatment System	С				1		1	1		7												М		
								1 V																

Evaluation of Milite Drainage from AME Sites as Part of Environmental Site Assessments for Jackson &	С	E										<b>✓</b>						М	P											
Hawkins AMD - AML	Р			<b>√</b>	<b>√</b>	<b>√</b>					<b>√</b>						<b>V</b>	M												
Allen AMD - AML	Р			<b>V</b>	<b>√</b>	<b>V</b>					<b>V</b>						<b>V</b>	М					P							
Omega Mine Complex - AML	Р			<b>√</b>		<b>√</b>			<b>√</b>		<b>√</b>			<b>√</b>			<b>✓</b>		М											
Owings Mine Complex - AML	Р		1	1	<b>V</b>	<b>V</b>	<b>V</b>			1	<b>V</b>			1	<b>√</b>	<b>√</b>	<b>√</b>		М											
Vindex Energy	С			1							1	<b>V</b>		<b>V</b>			<b>V</b>	М	0			Р	Р							
Dominion Resources - Upshur Enoxy Complex	С		1	1							1	1		1			1		э Р			Р	Р							
Osage AMD Treatment System	Р		<del></del>					-						1																
Reliable Mine AMD Treatment System	P												$\neg$	J																
Upshur Passive AMD Treatment System	P			1				-		-	-			1						_	$\vdash$								-	
Sundial Refuse - AML	С	E	1	1	1	1				$\overline{}$	1			•	1	7	7	М	и Р				Р						-	
Williamson (Hatfield) Landslide - AML	С	F	V	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-		_	7	$\overline{}$	Ĭ				_	-	7		и Р			Р	Р		Р		-+		-	
Georges Creek (Lucas) Rockslide	С	-						_	<del>,</del>	-	1	$\overline{}$	-	-			Ĭ		И	_		P	P				-		-	
	С					1		_	<del>*</del> +	1	7	7	1	1			Ž		o	_		P	Р		$\overline{}$				$\rightarrow$	
Solutia Landfill Closure Design for Various Environmental Remediation Projects		-	_		_	7	_	_	_	<b>*</b> +	<del>'</del>	<u> </u>	Ĭ	<u> </u>			Ž		<b>D</b>			Р	P		-		-		-	
Kanawha Eagle Coal Refuse Disposal Impoundment	С		-	-				-	-	$\rightarrow$	<b>V</b>	<del></del>		_					$\rightarrow$	+		-	-		$\rightarrow$		-	-	-	
Pocahontas County Landfill Expansion, Closure, and Operations Consulting	С		_			1	_	$\rightarrow$	-	$\rightarrow$	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>			<b>/</b>		D	D	-	_	Р	-	$\rightarrow$	-		_	+	
Energy Services Site Development and Permitting	С					<b>V</b>	_		_			$\rightarrow$	<b>√</b>		_		<b>√</b>			P		P	Р			_			-	
Smith Bridge Replacement	С		-				$\vdash$	-								$\vdash$	<b>/</b>	M		+	$\vdash$	P		-			-		+	
Corridor H, Section 6 Davis-Bismark	С			-			$\vdash$	-									<b>✓</b>		Л	+	$\vdash$	Р		$\vdash$	_		$\rightarrow$	_	+	
Environmental Assessment and Closure/Capping Design for Fleming Landfill	С					<b>V</b>													2				Р						-	
Environmental Assessment and Closure/Capping Plan for Jackson County Landfill	С																		И Р				Р		$\rightarrow$		$\rightarrow$		$\rightarrow$	
Elkem Metals Jarrett Branch Landfill	С																		2		$\perp$	Р	Р	$\sqcup$					$\perp$	
Mine Water Treatability Study, Guyses Run of Tygart Valley River	С	F										<b>✓</b>		<b>✓</b>		<b>√</b>		М	P											
Coldwater Creek/Luigino's Food Processing Facility, Inc.	С					<b>√</b>					<b>√</b>		<b>✓</b>		]			М	2	P.			Р							
Construction Layout for Mahan Tipple and Refuse AML Maintenance Project	С	F													T															
Construction Layout for Lynn Brook (Boud) Drainage, AML Reclamation Project	С	F																												
Grass Run Refuse - AML	Р		<b>V</b>			1	1				1	<b>V</b>					<b>V</b>	M	>				Р							
Allen Sheridan Hazardous Facility (Asbestos)	Р		1							1	1							M												
Elk City - Century-Volga Phase I/II Water Study - AML	Р											<b>√</b>						M	>				Р							
Camp Mohonegan Regrade - AML	Р		1			1	1				1	1		1		<b>V</b>	1	М	o				Р							
Comfort Run Coal Company (Asbestos) - AML	Р			1						1								М												
Turner Douglas Complex - AML	Р		1	J	1	1	1				1			1			7	M	- I			Р	Р						$\neg$	
Buffalo Creek No. 5 Refuse - AML	Р		1	<u> </u>		J	1	-			1			1			1	М		1			Р							
Dawmont Mine Facility - AML	Р		J	1	1	1	1				J			1	1		1	М				Р	Р							
Helen (Lewis) Refuse - AML	P		l ·	1	1	1		-		$\neg$	1				1		1	М		_	$\vdash$								$\neg$	
Upshur 10/15 Drainage - AML	P		1		1	1	-	-	$\neg$	-	1	1		1				М											$\neg$	
Madison Street Portals/Fairview Route 218 Portals - AML	Р		_	1	1	7			-	-	7			•			1	М					-		-				$\rightarrow$	
Summerlee Refuse Pile - AML	P		1	<b>-</b>		7	1	-	-+	-+	V	1		1		1			р			Р					Р	-	-	
	P		_ <u> </u>	1	1	7	-	-	7	-+	7	<u> </u>	- 1	•	-	-	J	-	p P			Р						_	-	
Duncan Hill Subsidence - AML  Cora Mine Drainage No. II - AML	Р		_	7	Ĭ		_		<u> </u>	_	7	$\rightarrow$	-	-		-	J			+-		Р	-		-		_	-	$\overline{}$	
	P		_	1	<u> </u>	<u> </u>	_	7	_	$\rightarrow$	<u> </u>	-	-				_	M		+		P			-		$\rightarrow$	-	-	
Covey Creek Mine Fire - AML	D	_	1	<u> </u>	1	1	1	<del></del> -	$\rightarrow$	$\rightarrow$	1	-	-	_	_		7	-	P	_	$\vdash$	P	-		-+	-	Р	-	$\rightarrow$	
Vivian Refuse Pile - AML				1	_			-	_	-+	<del>*</del>	1	_	_	1		7	-	, P		$\vdash$	P	-			-	P		$\overline{}$	
Kimball Refuse Pile - AML	Р		-	<b>/</b>	<b>√</b>	<b>✓</b>	<b>/</b>				<del>*</del>	<u>v</u>		-	<b>-</b>	<del></del>	7	M M		+	$\vdash$	P		-	$\rightarrow$			_	+	
Hampden (Smith) Landslide - AML	Р		<b>,</b>	,		<del>  ,  </del>	<del>  ,  </del>	$\rightarrow$	-	-+		$\rightarrow$	$\rightarrow$	_		<b>-</b>	_			+-	$\vdash$	P		$\vdash$		-	Р	-	+	_
Bear Run Refuse - AML	Р		-	<b>\</b>	V	<b>-</b>	<b>V</b>	$\rightarrow$	_	-	<b>✓</b>		-	<b>✓</b>	<b>/</b>	<b>V</b>	<b>√</b>			+		P		-			Р.		-	
Charleston (Ratcliffe) Landslide - AML	Р			,	-	<b> </b>	$\vdash$	-		_	,	-					<b>√</b>		>	+-	-	P				-	-	-	-	
Garrison Complex - AML	P		-	<b>-</b>	<b>✓</b>	<b>—</b>	$\vdash$	-	-	-	<del>-</del>		$\rightarrow$	-	<b>√</b>	$\vdash$	<b>/</b>			-					$\rightarrow$	$\rightarrow$		-	+	
Mulberry Fork (Stover) Landslide - AML	Р		<b>√</b>							$\rightarrow$	<b>√</b>		_	_			<b>√</b>	M	_	_		Р	$\rightarrow$				Р	_	+	_
Beckley Subsidence - AML	Р			1		<b>—</b>			<b>✓</b>	-	<b>/</b>				_,		<b>\</b>			_	$\vdash$	Р			-			_	+	
Courtright Highwall - AML	Р		<b>✓</b>	1		<b>\</b>					1				<b>✓</b>		<b>√</b>		Р	_	$\vdash$	P		$\vdash$	$\rightarrow$		$\rightarrow$		$\rightarrow$	
Jonben (Haga) Subsidence - AML	Р			1		<b>\</b>	$\vdash$	$\rightarrow$	<b>✓</b>		<b>√</b>						<b>√</b>		Р	-	$\vdash$	Р		$\vdash$	$\rightarrow$				$\rightarrow$	
Belle Landslide - AML	Р			1		1		$\rightarrow$			<b>√</b>						<b>√</b>		Р	_		Р		$\vdash$			Р		$\rightarrow$	
Holden (Padgett) Subsidence - AML	Р			1	<b>✓</b>	1			<b>✓</b>		<b>✓</b>						<b>\</b>	M	P	-									$\rightarrow$	
Minden Drilling - AML	Р		<b>✓</b>														<b>√</b>	М	_	_		Р			$\longrightarrow$				$\rightarrow$	
Kitchen/Gibson Landslide - AML	Р			1													<b>\</b>	М												
Gray and laquinta Subsidence - AML	Р			1					<b>V</b>		<b>√</b>						<b>\</b>		Р	_									$\rightarrow$	
St. John's Road Subsidence - AML	Р			1	<b>√</b>	1			<b>√</b>		<b>√</b>						<u> </u>		Р	+-	$\vdash$				$\perp$					
High Coal Tipple - AML	Р			<b>V</b>	<b>√</b>						<b>V</b>				<b>✓</b>		<b>\</b>												$\bot$	
Route 19/28 Subsidence - AML	Р			1		<b>√</b>			<b>√</b>		1						<b>\</b>	M												
Omar Refuse Pile - AML	Р		<b>√</b>	1	<b>V</b>	<b>V</b>	<b>√</b>	1			1						<b>V</b>	М				Р					Р			
Mt. Hope Subsidence - AML	Р			<b>V</b>					<b>√</b>		<b>√</b>			I	T		<b>√</b>	М												
Morgantown Airport Drainage/Subsidence - AML	Р			1	1	<b>V</b>			<b>V</b>		<b>√</b>						<b>√</b>	M												
Logan Drainage - AML	Р			1	1						1						<b>V</b>	М												
Huffman Street Subsidence - AML	Р			1					1		1						<b>V</b>	М												
Switzer Adams/Robinson Drainage - AML	Р			1	<b>V</b>	1		$\neg$			1						1	М												
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Follansbee Drainage - AML	Р			✓	✓	<b> </b>					<b>√</b>						<b>✓</b>	M														
Fairmont East Subsidence - AML	Р	F		1					<b>✓</b>		1						<b>V</b>	М														
Fairmont IV Subsidence - AML	Р			1					<b>\</b>		1						<b>V</b>	М													$\overline{}$	
Vargo Drainage - AML	р			1	7	1					1						1	М													$\overline{}$	
Duck Creek Landslide - AML	Р			1	1	1					1		<b>V</b>				1	М														
Kistler Mine Fire - AML	Р			J	1	J		1			J		1				1	М														
Lefthand Fork Burning Refuse - AML	р		1	Ť	-	1	1	1			1		Ť	1	1		1		М	Р											-	
Williamson Landslide - AML	P	E	1			1	_	<u> </u>			1			1		<del>                                     </del>	1	М	Р							Р					-	
Harris AMD - AML	Р	-	·	1	1	1	_				V			<del>                                     </del>	<del> </del>	1-	J	141	M	Р			_	_				_		-	-	+
			-	<u> </u>	<u> </u>	7					V		/	1		1	7	М	P			_	Р	Р							-	+
Wyoming County Landfill	P/C				<u> </u>	_	-		_			_	<u> </u>		-	+	+	_		-	_	-	<u> </u>	_	_		_			-	-	1
Jackson County Landfill	С		<del></del>			\ \ 	-	_			<b>√</b>		-	<b>-</b>	-	+	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	M	P	Р				P	_		_			$\rightarrow$		-
Kanawha Western Landfill	Р		1			1					<b>\</b>		_	<b>\</b>	-	-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	M	Р				Р	_						_		+
Monongalia County Sanitary Landfill	Р		<b>V</b>			1					<b>√</b>			1		-	1	M .	Р				Р					P				
Fayette County Landfill	Р					<b>/</b>					<b>_</b>					1	1		М													
Carolina Refuse - AML	Р		<b>√</b>	<b>✓</b>	<b>✓</b>	<b>√</b>					<b>✓</b>						<b></b>			M												
Majesty Mine Complex - AML	Р		<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>	<b>V</b>				<b>V</b>			<b>V</b>	1	1	<b>V</b>			M												
Grandstaff Subsidence - AML	Р			1					<b>✓</b>								<b>V</b>			М												
Glen Morgan (Lilly) Site - AML	Р			1					<b>V</b>			<b>V</b>					<b>V</b>			М												1
Viers Highwall - AML	Р		1	_	1	1						1		Ī			1			М												1
Spruce Laurel Stream Flow Monitoring Project - AML	С					1						J						М		М												
Summit at Cheat Lake Residential Subdivision	С			<b>!</b>		1			1		1	_				1	1						Р					Р	М	Р	Р	p
Avery Court	С		1			1			_		V					<b>—</b>	<del>                                     </del>											P	M	P		
		-		_	_	<u> </u>	_		_			_	_	<del>                                     </del>	<u> </u>	+	<del>                                     </del>						Р		-	Р	_		101		-	_
Hurricane Market Place	С		_	-	<b>—</b>	1	-						-	<del>                                     </del>		+	<b>—</b>	М	-	$\rightarrow$			М			P		-			_	_
Pison Development - Mineral Wells	С		-	_	_		_						-	-	-	-		M M					M		<del>                                     </del>	P	-					
Pison Development - Barboursville	С					<b>V</b>	-						<b>—</b>	-	_	-	-	_		$\rightarrow$				_		_	_	$\vdash$	-	-		-
Pison Development - Knollview	С					<b>√</b>							V	ļ	_	-	-	М		$\rightarrow$			М	_		Р			$\rightarrow$	$\rightarrow$		-
Pison Development - Cross Roads 2	С					<b>_</b>							<b>_</b>					М					М									
Pison Development - Elk Crossings	С					<b>V</b>												M					М									
Pison Development - Elkins	С					✓							<b>√</b>					М					М									
Pison Development - Harrisville	С					<b>V</b>							<b>V</b>					М					M							Р		
Pison Development - Point Pleasant	С					<b>V</b>												М					M									
Pison Development - Kanawha Court	С					1												М					М				Р					
Pison Development - Church Hill Village	С					J						1					1	М				M								Р		
Grove Park - Campus View LLC	С					Ż			1			<u> </u>					J			$\neg \neg$			P						М	Р	Р	Р
North Hills Development - 600-Acre Property	С		_			·			7					<del>                                     </del>		†	1			-			Р						м	$\rightarrow$		
	С					1	_		_				<del>                                     </del>			<del>                                     </del>	<u> </u>	М	Р	$\overline{}$			М			P				_	$\overline{}$	
Kenna Industrial Park			_			7	-				_	_	1	<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	101		_	М	_	101				P	-		$\rightarrow$	_	_
Spring Hill	С		_	_		<u> </u>	_		_				<u> </u>	<del>                                     </del>		<del> </del>	+			$\rightarrow$	M		_	_	$\vdash$		P		$\rightarrow$	$\rightarrow$	-	+
Ives - Orchards Manor	С		_			1	_				_	_		-	-	-	-	-			_				_			_		$\rightarrow$	-	_
Ives - Littlepage Terrace	С					<b>\</b>					_		-	-	-		-	_		$\rightarrow$	М				-		Р		-	$\rightarrow$		-
Ives - Patrick Street	С					\ \ ,										-	_			_	М				$\vdash$	_	Р					
Tucker County Industrial Park	С					<b>_</b>					<b>V</b>		<b>V</b>					М		М						Р			P			
Bradshaw Schools	C					<b>√</b>					<b>_</b>		<b>V</b>					М		М							P					
Магтоwbone Waterline Extension - AML	Р						<b>✓</b>				<b>√</b>																	М				
Ragland Waterline Extension - AML	Р						✓				<b>\</b>																					
Pigeon Creek Phase II Water Study - AML	Р						<b>V</b>				<b>V</b>																	М				
Wayne County Commission - Buffalo Creek Waterline Extension	Р						1				<b>V</b>																	Р				
Birch River PSD Waterline Extension	Р						1				1																	Р				
Lincoln County Commission - Town of Harts Extension	Р						1				1																	Р				
Independence Coal	Р						1				1					1	1															
Nicholas Energy, Inc.	Р						1				1					1	V											Р				
WV Bureau for Public Health - Drinking Water Treatment Revolving Fund	Р		<del>                                     </del>	<b>—</b>			<b>-</b>				_					t —	<b>_</b>								-			М.				
	P		-	<b>-</b>			1		-	_	1	<del></del>		1	t —	t	1			-	-							M	-+	-		
WVIJDC - Water Technical Committee											_			7		1	_											M	-+	-	-	
WV Bureau for Public Health - Water/Sewer Construction Permit Program	Р						1				<b>V</b>					+		-							$\vdash$	-			-	-		
WVIJDC Manager	Р	-		,	<b>_</b>	<b>—</b>	<b>/</b>				<b>\</b>	<b>—</b>	<b>—</b>	/	-	<b>,</b>	<b>,</b>				-	-		_		_		Р		_		
Westmoreland Coal Company	Р			1		1	<b>✓</b>		<b>√</b>	1	<b>\</b>			<b>\</b>	<b>✓</b>	1		_		_					$\vdash$					_		
Mingo Logan Coal Company	Р		1			1			<b>✓</b>		<b>√</b>	<b>√</b>	1			-	1															
Marfork Coal Company	Р		<b>V</b>			<b>V</b>					<b>_</b>					<b>/</b>	<b>V</b>				$\Box$											
Elk Run Coal Company	Р	F	<b>V</b>	<b>√</b>	<b>V</b>	<b>√</b>	<b>√</b>			<b>√</b>	<b>\</b>	<b>√</b>		<b>V</b>	<b>V</b>		<b>V</b>		I									Р				
Nicholas County Landfill	С										<b>V</b>							M	Р													
Peabody Coal Company	С		J	1						1								М														
Massey Coal Services	С		<u> </u>							1		1						$\Box$														
Poor Charlie & Company, Inc.	С									1		1				t —	1											Р				
Pace Carbon Fuels, LLC	С		_	<b>—</b>						1		1	1			1		М		_	-								-	-		
			_							7		7				<del>†                                      </del>	<del>                                     </del>			_	$\overline{}$	-			$\vdash$				$\rightarrow$	-+		
Amherst Industries, Inc.	C	_	-	1	_	1	-				1	<b>-v</b>	_	-	-	+	1	М		_		-+	P	-				-	$\rightarrow$	$\rightarrow$		
Hobet Mining, Inc.																																

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Montgomery Landfill	Р					<u> </u>					<b>√</b>			<b>V</b>			1	М		$\vdash$	_	_	Р	Р	-						
North Fork Landfill	Р			<b>_</b>		✓					<b>/</b>						1	P	М				Р		_	_					
Sycamore Landfill	Р												_					М													
Vaughan Railroad	Р												<b>√</b>				<b>V</b>	M					Р								
CSX Ramp Replacement	Р																<b>V</b>														
S&S Landfill	Р					✓					<b>√</b>						<b>V</b>	Р	Р	Р								Р			
Harwood Mine Complex	Р		<b>V</b>															М	Р				Р								
Southern Ohio Coal - Pump Tests	Р		<b>V</b>	<b>V</b>							<b>V</b>							М	Р	Р			Р								
WVDEP - Fairmont DAC	Р			1	<b>V</b>	1			<b>√</b>		1	<b>√</b>	<b>V</b>	<b>√</b>			<b>V</b>								М						
WVDEP - Pepper Portals and Drainage	Р		<b>V</b>	1	<b>V</b>	<b>√</b>					1	<b>V</b>	1	<b>V</b>			<b>V</b>								М						
WVDEP - Hilderbrand Highwall	Р		1	1	1	1			<b>V</b>		1	1		1			1								М						
WVDEP - Winona Complex	р		1		1	1					1					1	1								P,M	T					
WVDEP - Dale R. Thrasher	Р		1								1				1	_	1								P,M						
WVDEP - Wheeling (15th Street)	Р		Ť			1	-				1				Ť										P,M						
WVDEP - Dotson Tipple	Р		1	1	1	1	1			$\overline{}$	1			$\neg \neg$	7		1								P,M						
WVDEP - Montana Mines Subsidence	Р		Ť	Ť		Ť			1		1				Ť		1								P,M						
WVDEP - Pendleton Creek Strip	P		<b>V</b>	1	1	1	1				1			$\neg$		1	-						$\neg$		P,M	$\neg$				-	
WVDEP - Heather Run #2	Р		Ţ	1	7	7					V		7	1	1	1							$\neg$	_	P,M			-	-		
WVDEP - Barker Portals and Strip	P		Ž	7	7	7	1				7		V	7		1									P,M						
WVDEP - Whipering Woods Feasibility Study	Р		-	<b>-</b>	Ť	V	+	$\vdash$		-	•	1	•	_		_	<u> </u>			$\vdash$	_		$\top$	_	P,M	$\dashv$					
WVDEP - Writpering Woods Feasibility Study  WVDEP - Ruper to Rainelle Feasibility Study	P					7	1	$\vdash$			$\rightarrow$	7											$\vdash$	_	P,M	_			-+		
WVDEP - Ruper to Rainelle Feasibility Study  WVDEP - Shinnston (Osbourne) Subsidence	P						1		./		7	-									_		$\pm$		P,M	_		-+			
	P				_		+		J		V						1				-+		+		P,M	_	-			_	
WVDEP - Bethlehem (Toothman) Subsidence WVDEP - Pallotta Subsidence	P						_		7		Ž			-			Ž				-		+	_	P,M	$\rightarrow$	-	-	-	_	
	P					1	+	$\vdash$	_		7			1			\ \ \			<del>   </del>	-+		+	_	P,M	$\rightarrow$		$\rightarrow$	_	_	
WVDEP - Blackwater (OSM Appalachian Regional Award)  WVDEP - Shallamar Doser	P					<b>-</b>	+	$\vdash$			<b>V</b>		-	./			-	_		<del>     </del>	_	_	$\dashv$		P,M	-		$\rightarrow$	-	_	
			<b>V</b>	-		1	1	1		-	1		-	_	1		1			$\vdash$	-	-	$\dashv$		P,M	$\rightarrow$		=	=t	_	-
WVDEP - Blue Pennant Mine Fire	Р			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<b>√</b>	Ž		7		-	Ĭ		_	-	7		Ž					_	_		P,M	$\overline{}$		-	-	_	
WVDEP - Red Hollow Burning Refuse	Р		1	7		7		7			V		-		<u> </u>		J	_		$\vdash$		_	$\rightarrow$		P,M	-	_			_	_
WVDEP - Amigo Refuse	P		Ž	_	_	<del></del>	<del>                                     </del>	-		-+	Ž		1				Ĭ				_	_	$\rightarrow$	_	P,M	$\rightarrow$	-	-		_	
WVDEP - Jamison Burning Refuse	P		Ž	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1	<b>V</b>	1	-	_	-	7		<u> </u>	_	1	<b>V</b>				$\vdash$		-	$\rightarrow$	_	P,M	$\rightarrow$	$\rightarrow$	-	-	_	-
WVDEP - Amigo Smokeless Impoundment	р		7	7	7	7		1			V				7		7	_		+	_	_	$\dashv$	_	P,M		-	-		_	
WVDEP - Taylor Creek Impoundment (OSM National Award)	Р			7		7	+ <u> </u>	<del>                                     </del>			Ž				7		J	-			_	_	$\rightarrow$		P,M	$\rightarrow$	_	$\rightarrow$	-	_	
WVDEP - Wheatley Branch Landslide	Р			<u> </u>	<u> </u>	-	+				7		-	-	<u> </u>		Ž			$\vdash$	-		$\rightarrow$		P,M	-	-	-	$\rightarrow$	_	-
WVDEP - Ohio Avenue	Р		1	1	-	√ √	-				Ĭ				1		J					$\overline{}$	-	$\rightarrow$	P,M	_			-	_	
WVDEP - Robinson Run Landsilde WVDEP - Stealey Avenue Subsidence	Р			<b>'</b>		<u> </u>	+		1		V				<u> </u>		J	_		<del>                                     </del>	_	_	$\rightarrow$	_	P.M	$\rightarrow$		-		-+	
	P		1	-/	1	<b>V</b>	1		_		V		1		1	1	-			-	_		_	_	P.M	$\rightarrow$	$\neg$	-		-	
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MBOM - Ocean Gob Pile	Р	<b>√</b>			<b>√</b>	<b>V</b>				/			<b>√</b>		P,M		
MBOM - Porter Road Subsidence	Р							<b>√</b>			1		<b>√</b>		P,M		
MBOM - Midlothian and Shaft Road Subsidence	Р			<b>√</b>				<b>√</b>	_ \	/			1		P,M		
MBOM - Taste Freez Subsidence	Р							<b>√</b>					<b>√</b>		P,M		
ODNR - Frontz / Folly Mine Fire	Р	<b>√</b>	<b>V</b>		<b>√</b>		<b>√</b>						<b>√</b>		P,M		
ODNR - Blue Bell Mining Refuse Fire	Р	✓	<b>V</b>	_	<b>√</b>		<b>√</b>				1		<b>√</b>		P,M		
ODNR - Enoch Township Impoundment	Р	<b>√</b>			<b>√</b>								<b>√</b>		P,M		
ODNR - Pauline Mine Impoundment	P	<b>√</b>			<b>√</b>					/			<b>√</b>		P,M		
ODNR - Chickwan Landslide	Р	<b>√</b>			<b>√</b>			<b>√</b>			<b>     </b>		<b>√</b>		P,M		
ODNR - Z & H Landslide	Р	<b>√</b>			<b>√</b>			<b>√</b>			1		<b>/</b>		P,M		
ODNR - Washington Street Subsidence	Р							<b>√</b>					<b>√</b>		P,M		
ODNR - Netan Road Subsidence	Р							<b>√</b>					<b>√</b>		P,M		
ODNR - Bull Run Restoration	Р	<b>√</b>			<b>√</b>								1		P,M		
ODNR - Ellesmere Ave, Subsidence I,II,II, & IV	Р							<b>√</b>			1		1		P,M		
ODNR - El Camino Subsidence	Р							<b>√</b>			<b>V</b>		<b>√</b>		P,M		
ODNR - Van Alta Subsidence	Р							<b>√</b>			<b>V</b>		<b>V</b>		P,M		
ODNR - ST RT. 646 Subsidence	Р							<b>√</b>			<b>V</b>		1		P,M		
PADEP - Russell Joki Refuse	P	<b>V</b>			<b>V</b>					/			<b>√</b>		P,M		

<sup>\*</sup> List whether project experience is corporate or personnel based or both.

\*\* Use this area to provide specific sections or pages if needed for reference.

\*\*\* List Primary Design personnel and their functional capacity for the projects listed.

# -Civil Engineering and Design

Potesta & Associates, Inc. (POTESTA) helps clients evaluate and plan projects by completing the following types of preliminary evaluations and analyses.

- Phase I Environmental Site Assessments
- Floodplain Determination
- Geotechnical Explorations Including Soil, Bedrock, and Groundwater Characterization
- Foundation Recommendations
- Monitoring Well Systems and Site Characterization Plans
- Boundary, Topographical and Photogrammetric Surveys
- Utility Planning
- Earthwork Evaluations Including Volume Analysis
- Opinion of Probable Costs/Engineer's Construction Cost Estimates

Once the project has been determined feasible, POTESTA's design professionals complete preliminary and final designs. Frequent communication is made with the client and any other design professionals to review completed activities and obtain input for the design process. Our goal is to provide our services to achieve or exceed our clients' expectations.

#### Our design services include:

- Erosion and Sediment Control Plans
- Earth Retaining Structures Design
- Geometric Site Layout
- Grading and Drainage Plans, Including Excavation and Fill Optimization
- Access Road Design
- Hydraulic Structure Design
- Water and Sewer Design
- Slope Stability Analysis
- Subsurface Drainage System Design
- Construction Drawings, Specifications and Contract Document Preparation

POTESTA offers experienced environmental engineers and scientists to prepare applications for various environmental permits that may be required. These services include:

- Stormwater Management Permit/Erosion and Sediment Control Plans
- Office of Air Quality Permit to Construct
- Wetland Delineation and Permits
- National Pollutant Discharge Elimination System (NPDES) Permits
- Floodplain Management Permits
- Groundwater Protection Plans
- Spill Prevention, Control and Countermeasure Plans
- Environmental Site Assessments
- Environmental Impact Statements

POTESTA routinely provides professional services throughout construction of our projects. These services include survey layout, construction management, construction monitoring, record drawing preparation, and bid evaluation assistance.





# Computer-Aided Drafting and Design

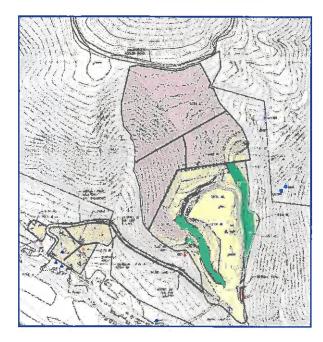
The Potesta & Associates, Inc. (POTESTA) computer-aided drafting and design (CADD) department provides state-of-the-art design and drafting services for in-house engineering and environmental consulting projects. We also provide personnel to clients who have a temporary need for additional drafting manpower. These services may be performed at your location or our office as required.

The CADD department utilizes the latest drafting/design software and computer hardware to maintain productivity at the high levels that clients demand and expect. We utilize the latest version in AutoCAD Civil 3D civil/survey design software to prepare, revise, and manipulate drawings and engineering data efficiently. Drawings and figures are produced using a Hewlett Packard 4500 and 7100 color ink jet plotters. POTESTA's experienced and trained professionals allow clients' projects and assignments to be completed rapidly and at reasonable cost.



Our CADD services include:

- Survey data manipulation including development of topographic mapping, cross sections, profiles, isopach drawings, etc.
- Site design including grading plans, drainage plans, utilities plans, right-of-way plans, etc.
- Roadway design.
- Water and sewer design.
- Permit drawings, maps, and exhibits.
- Earthwork and planimetric quantity development.
- Two and three dimensional graphics.



# - Construction Monitoring

Potesta & Associates, Inc. (POTESTA) provides construction monitoring and construction management services to assist clients in achieving regulatory and contractual compliance, to document that contractor activities are in compliance with design requirements, and to serve as an extension of clients' staff. POTESTA can provide full-time or part-time field services utilizing one or more engineers or technicians.

Regulatory compliance is often best documented by providing full-time construction monitoring services for a construction project. POTESTA can assist clients in observation of construction activities and documenting compliance. Our typical involvement in such projects includes:

- Conducting a pre-construction review of design and contract documents to identify potential problem areas, and consultation with the owner or client to develop strategies or procedures to avoid anticipated problems.
- Assistance in contractor selection. POTESTA can recommend construction contractors who specialize in the type of work associated with the project and can assist in bid evaluation by reviewing proposed quantities, unit costs, lump sum costs, and any proposed exceptions or qualifiers for the project. POTESTA can conduct pre-bid conferences to help contractors understand project requirements. We can also conduct pre-construction conferences prior to the start of the project to help establish lines of communication, review detailed plans, discuss testing requirements and establish proper reporting procedures.

- POTESTA can provide surveying for construction layout, measurement for payment quantities, and documentation of as-built conditions. Survey results are downloaded to form computer-aided drafting (CAD) drawings allowing the efficient preparation of record drawings and any subsequent evaluations required.
- Construction monitoring can include field testing to document compliance such as field density tests, concrete testing, sampling of materials for laboratory analysis, and documentation of site conditions and work performed on a daily basis or as required.
- Preparation of summary of construction reports, including photographs, videotape documentation, test results, daily construction logs, industrial hygiene monitoring, and other documentation as may be required by the client.
- Preparation of certifications as may be required.



# Endangered Species Consultation

The Endangered Species Act (ESA) requirements can delay if not halt important projects. Being able to respond promptly and thoroughly to the Fish & Wildlife Service's (Service) requests for an evaluation of probable project impacts on either endangered species, threatened species, or species of concern can facilitate needed regulatory approvals.

Potesta & Associates, Inc. (POTESTA) has extensive experience in biological assessments (BA) related to the ESA. We utilize a combination of in-house professionals and recognized experts to complete projects for our clients. This arrangement allows us to provide a work product which is acceptable to the Service.



For the last several years, our office has worked with natural gas transmission companies preparing environmental reports which include assessments and remediation of impacts to rare, threatened, and endangered species. POTESTA's biologists have worked on natural gas projects within the core summer roosting and maternity range of the Indiana bat. This work provided the firm's biologists with considerable experience in identifying suitable Indiana bat habitat in Ohio, Kentucky, Virginia, and West Virginia. Other biologists within our office

also have experience in bat surveys, echo location, bat identification and mussel surveys.

We have established professional relationships with local and regional experts on projects in our region. These relationships allow us to have access to recognized experts on the appropriate species on an as-needed basis. The advantage to the client is that this approach allows us to select the best individual for the task at hand.

These experts have specialized in the study of their species of interest for many years and are familiar with the life cycle, habitat requirements and sampling techniques for the species. POTESTA supplements these individuals with our experienced field staff, who are intimately familiar with the project, to constitute an effective team to respond quickly to threatened and endangered species issues. POTESTA provides final reports with additional information obtained from the noted expert, as well as relevant mapping and other supporting information.

This team approach allows for a complete evaluation of the potential impact a project may have on a species of concern. The most basic level of services in this area is a partial evaluation based only on literature reviews. An intermediate level of effort would be the literature review and a thorough field review of the project site to evaluate habitat. A complete evaluation would include the literature review, habitat evaluation, and extensive field collection program during the appropriate season of the year. Our subcontractors have the appropriate permits to collect the species in question.





# Geotechnical Engineering

Potesta & Associates, Inc.'s (POTESTA) engineers and geologists have extensive experience related to the geotechnical engineering and geological disciplines. These areas include subsurface explorations, monitoring well and piezometer installations, foundation design recommendations, slope stability analysis, retaining walls, and remedial designs as they relate to construction, mining, waste disposal, environmental remediation, and other projects.

#### SUBSURFACE EXPLORATIONS

POTESTA's diverse staff of engineers and geologists is experienced in the many different facets of subsurface explorations. Our usual procedure is to attend an initial meeting with the client to establish requirements and expectations, conduct a preliminary site reconnaissance, and develop a recommended exploration program for your review and approval. Supplemental information from the local area is then obtained from readily available sources to assist the engineer or geologist in making final recommendations.



POTESTA can provide field engineers and geologists who are knowledgeable using the latest technologies to assist in collecting and analyzing samples. Our knowledge of the proper procedures and familiarity with local conditions allows office

and field personnel to adjust the exploration plan if unanticipated field conditions are found.

Our staff is familiar with the following items which can be associated with subsurface exploration:

- Drilling and Rock Coring Techniques (augers, rotary bits, Geoprobe<sup>™</sup>, etc.)
- Sample Collection Methods (split spoons, shelby tubes, Geoprobe<sup>TM</sup> sleeves, etc.)
- Classification and Logging of Soil and Rock Samples
- Monitoring Well and Piezometer Installation

#### SLOPE STABILITY ANALYSIS AND REMEDIAL DESIGN

Slope stability is often a major concern during the design and construction phases of many projects, especially those located in the Appalachian terrain. POTESTA's engineers are familiar with the various methods utilized to predict slope stability and are capable of performing the related analyses. Slope stability is critical for many projects such as analysis of existing or proposed soil embankments, rock fills, dam analysis and design, landfill design and operation, assessing the causation of slope failure, and designing remedial measures. Analyses can involve circular or sliding block methods, interface friction angles, and estimation of the strength parameters of the soil or rock. Slope stability analyses are performed on one of the most technologically advanced computer programs available and can be modified using site specific data.

POTESTA's engineers can also develop preventive measures during initial project design or recommendations to repair slope failures. Based upon the project circumstances, our engineers will consider various remedial measures such as regrading the site to obtain more suitable conditions, management of groundwater, and design of retaining structures. Our staff is familiar with a wide variety



# Hydrology and Hydraulics Design

Our engineers have extensive experience in the application of hydrology and hydraulic principles to the design of real world systems. These applications include:

- Drainage Structure Sizing
  - Stream Relocations
  - Culverts
  - Channels
- Pond and Dam Design
  - Sediment Ponds and Basins
  - Spillways
  - Design/Rehabilitation
  - Slurry Impoundments
  - Lagoons
  - Dams
- Detention and Retention Systems
  - Ponds
  - Pipes
  - Underground Bladders
- Stormwater Management System Design
- Floodplain Management Permits/Approval
- Floodway Studies
  - FEMA (Federal Emergency Management Agency)
  - NFIP (National Flood Insurance Program)
  - Flood Elevation Surveys/Certifications
  - Flood Routing
- Dam Break Analysis
- Hydrology Surveys
- Stream Gauging
- Rainfall and Flow Data Collection
- Stormwater Drainage System Design
- Pressure Pipe Systems
- Stream Restoration Plans
- Natural Stream Channel Design/Restoration
- Expert Witness Testimony

To complete these types of applications, our engineers, scientists, and surveyors work jointly to develop an effective and economical solution to your situation. Their analyses use widely accepted computer models.



Potesta & Associates, Inc. typically uses the following computer modeling programs:

- HEC-RAS
- HEC-HMS
- TR-20/TR-55
- StormCAD
- CulvertMaster
- FlowMaster
- PondPack
- CORMIX

We have provided these services to a wide variety of public and private sector clients. Our staff not only understands the technical details, but is very experienced in working with the various state, federal, and local regulatory agencies. We know the level of detail they require and can obtain the necessary approvals in a timely manner.



# -Permitting Services

Potesta & Associates, Inc. (POTESTA) offers its clients exceptional expertise and experience when it comes to the permitting process, including all phases of application preparation, negotiations, modifications, compliance and renewal at all levels of government. Our permit services cover air, mining (coal and quarries), water and waste disposal permits.

#### AΠ

Our firm offers complete air permitting and consulting services to assist industry in complying with today's complex air quality regulations. Our staff has experience in identifying, characterizing and permitting air pollution sources for a variety of industries, including:

- Coating Operations
- Petroleum and Petrochemical Operations
- Chemical Manufacturing
- Manufacturing Facilities
- Mining
- Quarries
- Natural Gas Compressor Stations
- Electric Utilities

Our air quality experts have comprehensive knowledge of federal, state and local regulations, as well as experience in complex Title V applications. Our services include identification of potential air pollution sources, development of control strategies, preparation of permit applications, emissions inventories, compliance audits and regulatory liaison.

At both the state and federal levels, we help clients interpret and comply with air regulations, including the New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAPS). We can suggest emissions control strategies to meet both current and anticipated regulations, including BACT, MACT and LAER.

#### MINING

In recent years, mining permits have become increasingly complex, requiring diverse expertise in mining techniques, engineering, environmental regulations, benthic studies, hydrogeology and hydrology. Our staff has broad experience in providing innovative solutions to various mining problems.



Although the objective of a permit application is to receive agency approval in a timely manner, the client does not benefit if the application does not allow for effective operations. We work with our clients to ensure that your operational needs are met while allowing for essential flexibility. Several members of our staff have mining industry experience, and they understand the requirements vital to an effective operation.

From the beginning of the permit process, POTESTA involves the reviewing agency to allow its concerns to be addressed prior to submittal of the application. Often, this reduces the amount of review comments and revisions which could slow the approval process. Our thorough knowledge of the various phases and requirements of the permitting process, coupled with our technical



# Site Design



Potesta & Associates, Inc. has a significant body of work in site design for residential, commercial and industrial clients. Projects range from power plant siting to subdivision design. We have assisted numerous developers and development agencies with the creation of business industrial parks throughout West Virginia, and have been part of design teams for elementary, secondary and collegiate projects primarily associated with new building construction.

Our staff of civil, environmental, and geotechnical engineers; surveyors and environmental scientists can provide the following site planning and design services.

- Surveying Topo and Boundary
- Base Mapping from Aerial Photography
- Geotechnical Engineering
- Land Planning
- Environmental Issues Evaluation and Mitigation
- Site Grading
- Vehicular and Pedestrian Circulation
- Utility Design
- Site Features
- Stormwater Management Plans

Some clients who have used our site design services include:

- West Virginia Development Office
- Development Authorities: Tucker, Wood, Roane and Hardy Counties
- Bright Enterprises
- Charleston Area Alliance
- University of Charleston
- Timberwolf Development Corporation
- West Virginia Department of Environmental Protection
- West Virginia Division of Natural Resources
- Marshall University
- Architects: Associated Architects; Bastian & Harris, Architects; SEM Partners; ZMM



# Surveying and Mapping

Our surveyors are experienced in many aspects of surveying such as topographic mapping, boundary surveys (rural/farms, city lots, and subdivisions), ALTA surveys, control surveys, flood certificate surveys, well location surveys, construction surveys for layout of work, record drawings, and quantity measurements. Related areas include courthouse research, preparation of right-of-way plans, and verification of property owners. Potesta & Associates, Inc. (POTESTA) has licensed professional surveyors registered in West Virginia, North Carolina, South Carolina, Ohio, Virginia, and Pennsylvania. Their total combined surveying experience comes to well over 50 years.

POTESTA's surveyors use state-of-the-art equipment such as Topcon total stations, Trimble R-8 GNSS, and SMI data collectors with SMI software. Autodesk Civil 3D reduction and design software is used.

POTESTA is equipped with modern surveying instruments, allowing efficient data processing and accurate gathering of field information. Total station instruments equipped with data collectors are utilized for complete field-to-office automation allowing for high levels of productivity in the field. The latest versions of software are then used to process survey data and create drawings or required end products. These products can be supplied to our clients in AutoCAD and/or Microstation format.

Small topographic mapping projects can be completed in-house using the aforementioned process. Larger projects are better suited for mapping using aerial photography.

POTESTA can provide the necessary surveying required for establishing ground control for aerial mapping. As a quality control measure, aerial mapping is field checked for accuracy by surveying cross sections or random points.



Surveys completed by POTESTA are performed by or under the direction of a professional licensed surveyor. Surveys and mapping are completed to the standards outlined by the National Map Standards, as well as other applicable quality standards.

Our staff is experienced in global positioning surveys (GPS). GPS equipment, Trimble R-8 GNSS, and existing base stations are among POTESTA's surveying tools. Based upon the site location and ultimate use of the survey information, a recommendation is made to the client as to whether or not traditional survey or GPS is most applicable to their project.

# Water and Wastewater Engineering

Our professional staff is dedicated to providing quality engineering services for various types of water treatment and distribution systems, as well as wastewater management, collection and treatment systems. The following is a list of some of the services Potesta & Associates, Inc. is capable of providing:



#### WATER AND WASTEWATER DESIGN

- Feasibility Studies
- Conceptual Design
- Final Design
- Bidding and Construction
- Construction Monitoring
- Wastewater Audits
- Wastewater Minimization Studies
- Engineer's Cost Estimates
- Small Flows Design (Traditional and Innovative Treatment Systems for Low Volume Flows)
- Sewage Collection and Treatment
- Water Treatment and Distribution
- Industrial Wastewater Treatment
- Wastewater Treatment Plant Design
- Water Treatment Plant Design
- Water and Sewer Line Extensions

- Remediation Systems
- Landfill Leachate Treatment
- Storage Tank Design
- Flow Measurement
- Surveying/GPS and Mapping
- Permitting and Regulatory Liaison
- Combined Sewer Overflow (CSO)
- Management, Sampling and Modeling

#### STORMWATER MANAGEMENT

- Hydraulic Conveyance Structure Design (Culverts, Channels, Drop Inlets, Etc.)
- Stormwater Retention/Detention Pond Design
- Stormwater Pond Modeling
- Floodplain Identification and Management Strategies
- Hydrologic and Hydraulic Analysis and Evaluations and Modeling
- Construction Monitoring
- Surveying
- Permitting and Regulatory Liaison



Wetlands play a significant role in business and industry. These unique aquatic habitats can present problems with regard to development of properties because they are protected by the Clean Water Act.

Potesta & Associates, Inc. (POTESTA) has a qualified staff of scientists and engineers who are trained and experienced in the identification and permitting of wetlands, the mitigation of displaced wetlands and the design of constructed wetlands.

#### INVESTIGATION AND DELINEATION

Wetland investigations and delineations are conducted by POTESTA's scientists as part of pre development site investigation and environmental impact assessments. During a wetland investigation, the site is examined for the presence of wetland indicators, including specific hydrology, soils and vegetation. Any wetlands discovered are delineated in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987) and appropriate regional supplement manual(s).

#### **PERMITTING**

Once wetlands have been identified and delineated, POTESTA can prepare application packages for permits to fill and/or dredge these areas for further development. The U.S. Army Corps of Engineers (COE) is the agency responsible for granting wetland permits under Section 404 of the Clean Water Act. In addition to the COE permit, individual states must approve each permit granted, certifying that it meets the state's water quality standards.

Our employees have established working relationships with both the federal and state agencies in this region. We are very familiar with the data required and can work with the agencies to obtain timely review and issuance of permits.



#### **MITIGATION AND DESIGN**

Wetland mitigation and design come into play when wetlands being displaced or filled are large enough to require mitigation under state and federal standards. In some cases, wetland mitigation can be achieved solely through the payment of a fee to a mitigation bank or fund, established for the creation, protection or enhancement of other wetland areas. In this case, POTESTA can prepare an appropriate mitigation offer and negotiate with state and federal authorities for its approval.

Depending upon the availability of suitable sites, wetland mitigation can also consist of the actual design and construction of new wetlands, or the enhancement of existing wetlands. Our staff includes qualified engineers experienced in the design of created wetlands. Working as a team with staff biologists, we can produce a cost-effective functional design for presentation to state and federal authorities. Once approved, we can provide construction monitoring of the new wetlands.

# MAY PORTAL HOME LANDSLIDE MAINTENANCE

Virginia Department of Mines, Minerals & Energy Abandoned Mine Land Unit Buchanan County, Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the Virginia Department of Mines, Minerals & Energy – Abandoned Mine Lands (VAAML) to reestablish and stabilize a previously reclaimed deep mine portal site in Buchanan County, Virginia. The previous project included stabilization of a localized slide area, backfill and reclamation of the existing highwall, and construction of wet seals in the existing portals.



A slide area had developed above and within the

limits of the highwall backfill material previously placed at the portal site. There were also reports that the riprap material used as the toe buttress provided habitat for snakes which were often seen at or near the existing residence. During heavy rainfall events, an existing ditch located near the toe of a previously reclaimed slope reached capacity and overflowed across the lawn areas of the adjacent residence. Riprap was also displaced in the primary riprap-lined drainage conveyance channel. There was also no defined ditch to convey mine discharge water from the wet mine seal area.



POTESTA prepared a regrading plan and design to re-stabilize the failed section of slide, including installing a new grouted riprap buttress, designing drainage at the toe of the buttress and around the existing residence, and restoring other problem drainage structures and areas that were installed as part of the original reclamation project. This work required the construction of a fence to protect the existing well house and adjacent occupied residence located on the site.

As part of the project, POTESTA assisted the VAAML with the contract bidding and evaluation of bids.

# BURNWELL (STANDARD/PAINT CREEK/ COLLINSDALE) WATER LINE EXTENSION – PATHWAY AND SOURCE STUDY

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Kanawha and Fayette Counties, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) to prepare a study evaluating possible water line extensions to the Collinsdale/Burnwell area from neighboring public water systems. An initial study completed by the WVDEP determined that the area was 100 percent impacted by pre-1977 mining activities. The study recommended construction of a water treatment plant near Burnwell. Upon further review, WVDEP determined that Collinsdale/Burnwell did not have the personnel or financial ability to operate and maintain a water treatment plant. Accordingly, WVDEP directed POTESTA to complete a study that compared alternate pathways (from alternate sources).



To complete the study, POTESTA performed a file review of the public water systems in the area to verify their production and financial capabilities. Meetings were held with the WVDEP and public water systems to address concerns regarding the additional customers and service line. Based upon the aforementioned as well as site visits, POTESTA prepared a preliminary engineering report, including preliminary water system design, and a West Virginia Infrastructure & Jobs Development Council Preliminary Application. The study evaluated two pathways including estimates of construction and

project cost, and summaries of advantages and disadvantages. The recommended water line extension proposed approximately 48,000 LF of water line, one booster station, a tank, fire hydrants, meter assemblies, and miscellaneous valves and fittings.

POTESTA will design the water line extension selected by the WVDEP from the preliminary engineering report. The extension will be mapped, including locating utilities, public water system connection points, identifying easements via tax maps, and surveying tank and booster station sites. POTESTA will prepare and submit the necessary "clearance" letters and permits for construction.

Geotechnical exploration and assessment will be performed for tank and booster sites. Boundary surveys and plats will be prepared for the property transfer of the tank and booster station sites, and POTESTA will perform a hydraulic evaluation to estimate the impact of the additional demand on the selected public water system.

Ultimately, POTESTA will prepare drawings, technical specifications, contractor's bid forms, engineer's construction cost estimate, and calculations brief for the project.



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# **BORDERLAND (MATNEY) PORTAL**

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Borderland, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands to prepare plans and specifications for installation of mine portal seals and a drainage system around a residence. The project consisted of correction of uncontrolled seepage from collapsed mine portals. The drainage presented problems for the property owners and was having an adverse impact on the environment. The discharge of impounded water from the underground mine works is a serious threat to life and property due to the potential it poses for a blow-out.



The project required six mine portal seals, three double block wet seals and three conventional single block wet seals. Bat gates were installed in two seals. The portals were adjacent to a residence and required plans for drainage channels to divert discharge from the portals through the residence property to a nearby stream. Regrading and revegetation of all areas disturbed during construction were also required.



POTESTA prepared drawings, technical specifications, contractor's bid forms, engineer's construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.

## FAIRMONT EAST MINE DRAINAGE

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Fairmont, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) to provide engineering services regarding the conveyance of mine seepage around residential areas and into the City of Fairmont's storm sewer system. The project area is located along Palatine Avenue and Mason Street. Abandoned underground mine works caused flooding problems along these streets.

POTESTA performed the following tasks to complete this project:

- Mine map review.
- Survey to develop mapping.
- Subsurface exploration.
- Design of mine drainage collection system and storm sewer system to convey runoff to the City of Fairmont's storm sewer system.
- Design of collection system consisting of 15-inch corrugated plastic pipe to City of Fairmont's standards, including pavement overlay to impacted streets.





# GEORGE'S CREEK (LUCAS) LANDSLIDE MAINTENANCE

West Virginia Department of Environmental Protection - Office of Abandoned Mine Lands Kanawha County, West Virginia



Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection - Office of Abandoned Mine Lands (WVDEP) to evaluate and perform geotechnical engineering services for a landslide related to historic mining activity which was threatening a nearby residential structure.

A portion of the existing hillside immediately adjacent to the rear of the residential structure was excavated prior to construction of the structure to a near vertical

slope exposing weathered shale and a coal seam near the slope's base. The exposed coal seam was determined to be the No. 2 Gas seam which was reportedly mined in the 1950s. Some drainage was noted flowing from the coal seam and the resulting water was conveyed through a nearby culvert to Georges Creek. Attempts were made by WVDEP to excavate loose rock and soil from the hillside in an effort to improve stability of the slope. Following this initial work, the slope continued to slough with periodic small slides and slope movement believed to be caused by continued subsidence of the underground mine works.

POTESTA performed a subsurface exploration to assist in evaluating the landslide condition, including the type and condition of the rock located in the slope, as well as the attitude, thickness and condition of the underlying coal seam. POTESTA survey crews also completed a topographic survey of the affected area including the surrounding residential structure, drains and wooded hillside. The remedial measures to correct the landslide area included the design of a 25-foot high steel soldier beam and concrete lagging retaining wall with sloped, compacted backfill constructed from on-site materials.



The retaining wall design required the application of a rock anchor tie-back system due to mine voids existing at the base of the hillside slope that were encountered during the subsurface exploration.

As part of the project, POTESTA assisted the WVDEP with contract administration and performed construction observation services during the construction phase.



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## **GEORGES CREEK PORTALS**

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Georges Creek, Kanawha County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands to design mine seals for abandoned mine openings along Georges Creek and U.S. Route 60.





Design included a total of 28 mine seals. The following types of seals were utilized:

- Urethane Foam with Applied Mortar
- Typical West Virginia Wet Seals
- Wet Seals with Bat Gates
- **Dry Seals**

In addition to mine seals, the design included piping to convey mine drainage to receiving streams. The conveyance piping layout required two West Virginia Division of Highways road crossing permits. An underdrain was utilized to convey subsurface drainage.

#### **JESSOP HIGHWALL #10**

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Tunnelton, West Virginia



Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection (WVDEP) to prepare design plans and specifications to reclaim three abandoned mine land (AML) sites located near Tunnelton, West Virginia. Work to reclaim the three sites included sealing of abandoned mine portals, regrading of highwalls and collection of drainage from some of the abandoned mine portals and seeps. POTESTA utilized aerial mapping and ground survey to create topographic mapping of the sites.

#### Site 1

- Regraded approximately 1,150 feet of highwall averaging approximately 25 feet in height.
- Monitored test borings at the proposed mine portal sites to determine the location and the depth of mine voids, and the amount of water in the voids.
- Designed the closure of seven abandoned mine portals using a wet seal or bat gate mine seal.
- Designed drainage channels to collect water from the mine portals to discharge into a nearby stream.
- Designed a mine portal collection system that included 18 HDPE manholes.
- Incorporated a previously designed acid mine drainage collection and treatment system into our design.

#### Site 2

- Regraded approximately 7,500 feet of highwall averaging approximately 20 feet in height.
- Monitored test borings at the proposed mine portal sites to determine the location and depth of mine voids, and the amount of water in the voids.
- Designed the closure of three abandoned mine portals using a wet seal or modified mine seal.
- Designed drainage channels to collect water from the mine portals to discharge into a nearby stream.



#### Site 3

 Designed an underdrain system behind a residence and garage to prevent damage to the structures from a seep discharging acid mine drainage.

POTESTA prepared drawings, technical specifications, contractor's bid forms, engineer's construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.



## LANDO (EDWARDS) DRAINAGE

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Lando, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) for a project that included the regrading of mine spoil that had been formerly disposed of in this area, as well as installation of mine portal seals and drainage improvements. The project consisted of three sites:

- A refuse pile graded to flattened slopes and topped with a soil cover.
- Channeling and diverting into nearby streams some drainage affecting nearby residences.
- Rehabilitating two existing mine seals and installing one new mine seal.





POTESTA's work on the project included surveying and development of mapping, as well as development of the repair, drainage and reclamation plans.

POTESTA prepared drawings, technical specifications, contractor's bid form, engineer's construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.

## MOUNTAIN RUN REFUSE AND PORTALS

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Masontown, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) to evaluate the Mountain Run Refuse and Portals Project. This project consisted of 15 collapsed mine portals, five refuse piles covering 3 acres, and the demolition/removal of miscellaneous areas of mining debris, garbage, abandoned mine structures, and rail timbers. Our services included:

- Drilling of the refuse piles, mine portals and potential soil borrow areas.
- Field survey to develop site mapping.
- Regrading of the refuse piles to stabilize the slopes.
- Design of drainage control channels including a limestone channel to reduce acid mine drainage.
- Design of five wet mine seals and 11 dry mine seals, with the wet seals including a modified outlet pipe to maintain the current discharge from the portal which is used as a portion of a local resident's water supply.



POTESTA prepared drawings, technical specifications. contractor's bid forms, engineer's construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.



# RACHEL REFUSE AND STRUCTURES

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Marion County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) to evaluate three sites to upgrade access roads, regrade/cover all refuse material with at least 12 inches of topsoil, and to dismantle and remove all buildings, equipment and debris from the site. The project also included construction of drainage control structures to carry water safely offsite and revegetation of all areas disturbed by the construction.

Site 1 was regraded and all refuse was covered with 1 foot of soil. An access road for a gas well was regraded across this site.

Site 2 was a refuse pile located behind a residence. This area was regraded to lower the pile by 10 feet and flatten the slopes on the sides. A drainage ditch was placed between the refuse pile and the house.

Site 3 was an existing impoundment. The site was regraded to remove the dam and place a grouted riprap drainage system at an existing drainage structure. All buildings and debris were removed from this site.





POTESTA prepared drawings, technical specifications, contractor's bid forms, engineer's construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.

# SUNDIAL (HATFIELD) REFUSE PILES

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Raleigh County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) to prepare a reclamation design for the Sundial Refuse Piles in Raleigh County, West Virginia. The site was a former mining complex and included four distinct refuse piles that lacked vegetation and were eroding, open mine portals, and abandoned structures such as hoist houses.



As part of this project, the following were completed:

- Ground survey.
- Geotechnical exploration.
- Preparation of construction drawings, technical specifications, bid form, and engineer's estimate of probable construction costs.



The reclamation design anticipated approximately 372,000 cubic yards of earthwork, 15,000 feet of drainage channel, 3,000 feet of underdrains, 26 mine seals, and demolition and removal of numerous structures, including historic mine cars.

The project was bid at a construction price of approximately \$3,700,000.

As part of the project, POTESTA assisted the WVDEP with contract administration and performed construction observation services during the construction phase of the project.



# TAYLORVILLE (CANTRELL) DRAINAGE

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Mingo County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands (WVDEP) to evaluate and develop a reclamation design for mine drainage impacting a community in Taylorville, Mingo County, West Virginia. POTESTA completed field reconnaissance and surveying to develop topographic mapping, and prepared construction bid documents for the reclamation design.



The Taylorville project included three different sites. The first site included mine drainage along the

hillside behind a mobile home. The second site included mine drainage impacting a driveway and parking area. The third site included mine drainage above a house.



POTESTA designed underdrains to collect and convey drainage from the first two sites to the West Virginia Division of Highways (DOH) right-of-way. Approximately 1,100 feet of new corrugated plastic pipe with DOH Type G drop inlets were designed to convey mine drainage to Pigeon Creek, while also handling storm water from the DOH roadway. A standard wet mine seal was designed with riprap channels to handle the mine drainage at the third site.

POTESTA prepared drawings, technical specifications, contractor's bid forms, engineer's

construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.

# TAYLORVILLE (RAY) LANDSLIDE EMERGENCY

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands Mingo County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands (WVDEP) to develop a stabilization plan for a landslide project at Taylorville, Mingo County, West Virginia. Following a period of heavy precipitation, a landslide occurred on a steep hillside behind a mobile home. The landslide pushed the mobile home off its foundation and destroyed a one-room extension along the rear of the mobile home.



POTESTA surveyed the landslide area to develop topographic mapping, prepared a stabilization plan to remove the landslide soils and backfill the area with a rock buttress. The stabilization plan also included an underdrain at the base of the rock buttress to convey drainage to the Taylorville (Cantrell) project drainage system. The plan called for 2,000 cubic yards of unclassified excavation, 1,750 cubic yards of shot rock backfill (buttress construction), 200 cubic yards of soil cover, and 400 feet of underdrain.

POTESTA prepared drawings, technical specifications, contractor's bid form, engineer's construction cost estimate, and calculations brief for the project. POTESTA also attended the pre-bid and pre-construction conferences to assist WVDEP with the project.

# WILLIAMSON (HATFIELD) NURSING HOME LANDSLIDE MAINTENANCE

West Virginia Department of Environmental Protection - Office of Abandoned Mine Lands Williamson, West Virginia

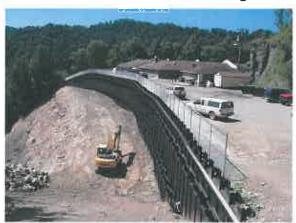


Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection - Office of Abandoned Mine Lands (WVDEP) to evaluate and perform geotechnical engineering services for a landslide below the parking lot of the Mingo Manor Nursing Home and above the Hatfield residence. The project area was the site of a former WVDEP reclamation project 15 years earlier. The previous project included regrading of the mine spoil that had been formerly disposed of in this area, as well as drainage improvements.

A landslide occurred in the hillside threatening damage to the residence at the base of the hillside, as well as causing damage to the nursing home parking lot at the top of the hillside and potentially threatening damage to structures at the nursing home facility.

POTESTA performed a subsurface exploration to assist in evaluating the landslide condition. The remedial measures to correct the landslide area included the design of a 456-foot steel soldier beam and wood lagging retaining wall. The retaining wall included a rock anchor tie-back system to minimize the potential for additional settlement of the nursing home parking lot area and potential future damage to the structures within the nursing home facility.

As part of the project, POTESTA assisted the WVDEP with contract administration and performed construction observation services during the construction phase of the project.







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# FORT MARTIN CCB LANDFILL PERMIT APPLICATION/CONSTRUCTION INSPECTION

Allegheny Energy Supply Company, LLC Monongalia County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Allegheny Energy Supply Company, LLC to develop a permit renewal application associated with a coal combustion by-product (CCB) landfill expansion. The project is located near Maidsville, West Virginia. POTESTA developed a West Virginia/NPDES permit renewal application related to the existing portion of the Class F Industrial Landfill, as well as encompassing the expansion area of just under 100 acres.

POTESTA prepared a solid waste/NPDES water pollution control permit including supplemental evaluation of candidate sites for the expansion area; field exploration involving collection of soil, geological, and hydrological data; wetland and stream impact delineation; detailed design; and preparation of construction/bid documents for the landfill expansion. In conjunction, the project included two large leachate storage ponds and a composite landfill liner system. The capacity of the expansion area is approximately 8.7 million cubic yards of CCB.



POTESTA also performed construction observation/construction administration for the landfill project. Services provided by POTESTA included soil density testing, concrete testing, nondestructive and destructive testing for the liner system. POTESTA provided between one and four construction technicians to observe the contractor's construction activities, document construction activities and construction quality assurance testing, preparation of daily field activity logs, preparation of records of quality assurance testing, take photographs of the construction, and attend weekly progress meetings. POTESTA also prepared a summary of construction report for final approval of the construction by the West Virginia Department of Environmental Protection and prepared certifications of construction for each layer of the landfill liner system.

# LANDSLIDE STABILIZATION PROJECT

#### Columbia Gas Transmission Blue Creek, West Virginia

Columbia Gas Transmission (Columbia) operates and maintains a natural gas storage field north of Charleston, West Virginia at Blue Creek. Potesta & Associates, Inc. (POTESTA) was contacted during the fall of 2004 to provide professional geotechnical services related to the preparation of a stabilization plan for a localized soil slope failure approximately one acre in size. The affected area was associated with a valve set and feeder line servicing a storage field well which was unhooked taking the well out of service.



POTESTA worked with Columbia over the winter of 2004-05 to design a regrading plan for the slide mass which included perimeter ditches and drainage control, as well as the construction of an underdrain and toe-key for the slide. A high-pressure gas main located immediately above the top of the slide had to remain in service. During the work, the slide mass continued to move up the hill threatening the integrity of the active high-pressure gas main. POTESTA worked with Columbia and the contractor during the regrading to provide an emergency plan to stabilize the gas main which included the excavation of sandstone riprap from an area immediately adjacent to the site which was utilized as buttressing material stabilizing the gas main and the slide area.



The project, which was finalized during the late winter months, resulted in many field changes which were coordinated with both the owner and the contractor to insure the integrity of the gas main resulting in the continued service of natural gas produced from the field during peak demand months.

# **CLENDENIN COMPRESSOR STATION** LANDSLIDE EVALUATION REPAIR

Columbia Natural Gas Clendenin, West Virginia



Potesta & Associates, Inc. (POTESTA) was retained by Columbia Natural Gas (Columbia) to evaluate and design remedial measures for a landslide at Columbia's Clendenin Compressor Station. The landslide was located adjacent to the office and maintenance building at the facility and threatened to damage the structure.

POTESTA provided surveying services to map the project area and performed a subsurface exploration to assist in evaluating the landslide condition. The remedial measures to correct the landslide area

included the design of an approximately 200-foot steel soldier beam and concrete lagging retaining wall. The retaining wall included a rock anchor tie-back system.

As part of the project, POTESTA assisted Columbia with contract administration and performed construction observation services during the construction phase of the project.





# **BEVINS LANDSLIDE EMERGENCY**

Commonwealth of Virginia, Department of Mines, Minerals and Energy Buchanan County, Virginia



Potesta & Associates, Inc. (POTESTA) was retained by the Commonwealth of Virginia, Department of Mines, Minerals and Energy, Abandoned Mine Land Program (DMME-AML) to provide professional engineering design services under the Small Purchase Procurement Program for Professional Services (09AML06). These services consisted of developing an engineering report, construction plans and specifications, and a material schedule for the Bevins Landslide Emergency Project in Buchanan County, Virginia.

The project consisted of:

- Stabilization/removal of a slide that occurred behind the Bevins residence.
- Removal and disposal of slide material that has already been deposited on the old mine bench.
- Installation of temporary and permanent drainage control measures.
- Upgrade of the existing entrance roadway onto the mine bench where the Bevins residence is located.
- Installation of required erosion and sedimentation control measures including revegetation of disturbed areas of the site.



POTESTA performed the surveying, subsurface exploration, and geotechnical design necessary to complete this project.

## MINE WATER TREATABILITY STUDY

Eastern Associated Coal Corp.
Guyses Run of Tygart Valley River, Marion County, West Virginia

A major coal company was having difficulty meeting permit limits from an AMD treatment facility which discharged into a tributary of the Tygart Valley River. Several vendors had visited the site and attempted to meet the permit limits with an assortment of chemical treatment options. Potesta & Associates, Inc. (POTESTA) determined the wastewater was supersaturated with carbon dioxide and when the pH of the wastewater was adjusted, the carbonate radical became insoluble and formed a precipitate on the bed of the stream. POTESTA did stream sampling (water chemistry and benthic macroinvertebrates), upstream and downstream of the discharge, to determine the extent of the impact on the discharge on the receiving stream. Substrate sampling plates were also placed in the stream to determine the rate of deposition on the streambed.

## MINE DRAINAGE TREATMENT SYSTEM

Elk Run Coal Company Boone County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by a large coal company to design a collection and treatment system for mine seeps from a previously reclaimed surface mine site. The mine seepage had levels of iron and manganese above allowable discharge levels, and the downstream area below the valley fill was limited in space available for treatment. POTESTA assisted the company in locating the problem seepage and designing a proposed treatment system. POTESTA's scope of work included:

- Field walkovers.
- Record and data reviews.
- Topographic surveying of the area proposed for the treatment system and location of the seeps.
- Measurement of seep flow rates.
- Detailed hydrologic and hydraulic modeling of the contributing watershed and anticipated base flow of mine seepage. Based on the initial calculations and space available, an interconnected system of seven ponds was proposed. Interconnected pond hydraulic modeling was performed to determine the appropriate spillway sizes and estimated 100-year, 24-hour storm elevation.
- Excavation/grading plans for the seven pond systems including pond storage volumes and excavation quantities.
- Calculation of required liming rates to reduce iron and manganese to acceptable concentrations.
- Design of the pumping and piping network to collect the problem seepage and direct it to the proposed pond treatment system.

# ACID MINE DRAINAGE TREATMENT FOR UPPER MUDDY CREEK AND SOVERN RUN

Friends of the Cheat Preston County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the Friends of the Cheat (FOC) to provide design assistance for two acid mine drainage treatment projects located in Preston County, West Virginia. POTESTA's services included review and modifications of conceptual designs, topographic surveying, courthouse research for property boundaries, preparation of construction drawings and technical specifications, development of bidding documents, and construction observation.



The Upper Muddy Creek project involved acid mine drainage from four areas that discharged into Muddy Creek upstream of where it crosses beneath State Route 3 (Brandonville Pike). Muddy Creek has been significantly impacted by acid mine drainage, but the upper portion is a trout stream. The proposed design includes the construction of four limestone leach beds and nearly 1,500 feet of open limestone channel.



The Sovern Run (Tichenell) project involved highly acidic discharge from one source and mildly acidic discharge from two sources. The design included a limestone leach area and an open limestone channel to provide treatment for the main acid mine drainage source. The mildly acidic sources included a limestone leach bed for treatment and two steel slag leach dams to add excessive alkalinity to the water in an effort to provide a net neutralization effect upon its confluence with the high acidity drainage further downstream.

# LYNN BROOK (BOYD) DRAINAGE AML RECLAMATION PROJECT

J&B Excavating, Inc. Kanawha County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by J&B Excavating, Inc. to provide construction layout for the Lynn Brook (Boyd) Drainage AML Project in Kanawha County, West Virginia. J&B Excavating, Inc. was contracted by the West Virginia Division of Environmental Protection (WVDEP) Office of Abandoned Mine Lands and Reclamation (AML) to perform reclamation on an AML landslide.

Proposed reclamation included mobilization and demobilization, construction layout, clearing and grubbing, unclassified excavation, permanent erosion control matting, channels, mine seals, subsurface drain, manhole, culvert headwall, sediment control, and revegetation. Total proposed excavation was approximately 5,540 cubic yards. Construction documents for the project were prepared by another consultant.

#### POTESTA's tasks for the project include:

- 1. Construction layout of lines/grades for earthwork, including survey of "pre-construction" and "post-construction" cross sections.
- 2. Computation of (or assistance with) certain as-built quantities, including earthwork, channels, and revegetation.
- 3. Submittal of "post-construction" cross section drawings depicting existing and final grades.

# EVALUATION OF MINE DRAINAGE FROM AML SITES, AS PART OF ENVIRONMENTAL SITE ASSESSMENT

Jackson & Kelly, PLLC
Mingo County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Jackson & Kelly to perform an environmental site assessment (ESA) of approximately 5,000 acres of mining property in Mingo County, West Virginia. The mining property consisted of Surface Mining Control and Reclamation Act (SMCRA) mining sites and pre-SMCRA mining sites (i.e., AML). Included in the ESA was an evaluation of mine drainage from the AML sites, as well as the SMCRA sites. AML sites included unreclaimed refuse piles, open and draining portals, and remnants of other mining structures. The intent of the mine drainage evaluation portion of the ESA was to identify acid mine drainage (AMD) sources on the property, and their potential liability for a property purchaser.

The evaluation of mine drainage included:

- 1. Records Review
- 2. Interviews with Regulators
- 3. Field Reconnaissance, Including Water Sampling

Records reviewed included the water quality sections of SMCRA permits (including attempting to identify documentation confirming whether AMD was from SMCRA or AML sites) and the 303(d) TMDL list of streams impaired by acid mine drainage. Regulatory officials were also asked about known AMD sites.

Field reconnaissance and water quality sampling was conducted to:

- 1. Identify and characterize mine drainage from pre-SMCRA (i.e., AML) and SMCRA mining operations.
- 2. Assess the quality of surface waters draining the property.

SMCRA sites were located based on the records review. Pre-SMCRA (i.e., AML) sites were located based on the records review, review of United States Geological Survey mapping, interviews with regulatory officials and other people familiar with the property, by chance encounter during the field reconnaissance, and by "chasing" low pH and/or high specific conductivity field readings and/or stream discoloration up a stream until a mine drainage source was identified.

Streams and mine drainage sources were assessed via intensive field sampling including field sampling of most "unnamed tributaries" with follow-up water quality sampling/analyses of certain streams and mine drainage sources via a laboratory.

# EVALUATION OF MINE DRAINAGE FROM AML SITES, AS PART OF ENVIRONMENTAL SITE ASSESSMENT

Jackson & Kelly, PLLC
McDowell County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Jackson & Kelly to perform an environmental site assessment (ESA) of approximately 1,000 acres of mining property in McDowell County, West Virginia. The mining property consisted of Surface Mining Control and Reclamation Act (SMCRA) mining sites and pre-SMCRA mining sites (i.e., AML). Included in the ESA was an evaluation of mine drainage from the AML sites, as well as the SMCRA sites. AML sites included unreclaimed refuse piles, open and draining portals, and remnants of other mining structures. The intent of the mine drainage evaluation portion of the ESA was to identify acid mine drainage (AMD) sources on the property, and their potential liability for a property purchaser.

The evaluation of mine drainage included:

- 1. Records Review
- 2. Interviews with Regulators
- Field Reconnaissance, Including Water Sampling

Records reviewed included the water quality sections of SMCRA permits (including attempting to identify documentation confirming whether AMD was from SMCRA or AML sites) and the 303(d) TMDL list of streams impaired by acid mine drainage. Regulatory officials were also asked about known AMD sites.

Field reconnaissance and water quality sampling was conducted to:

- Identify and characterize mine drainage from pre-SMCRA (i.e., AML) and SMCRA mining operations.
- 2. Assess the quality of surface waters draining the property.

SMCRA sites were located based on the records review. Pre-SMCRA (i.e., AML) sites were located based on the records review, review of United States Geological Survey mapping, interviews with regulatory officials and other people familiar with the property, by chance encounter during the field reconnaissance, and by "chasing" low pH and/or high specific conductivity field readings and/or stream discoloration up a stream until a mine drainage source was identified.

Streams and mine drainage sources were assessed via intensive field sampling including field sampling of most "unnamed tributaries" with follow-up water quality sampling/analyses of certain streams and mine drainage sources via a laboratory.

## NEW WEST HOLLOW IMPOUNDMENT

Kanawha Eagle Limited Liability Company Winifrede, West Virginia

Potesta & Associates, Inc. (POTESTA) has provided a number of different services to Kanawha Eagle Limited Liability Company. Kanawha Eagle operates a slurry impoundment and a coarse refuse side hill embankment with slurry cells. following is a list of services provided:

- Development of new and/or revised staging plans for refuse disposal.
- Preparation of permit modifications that are required as a result of changes in the refuse disposal plans.
- Seven-day inspections at both refuse disposal facilities, required by MSHA.
- Annual certifications required by MSHA (for both facilities).
- Quarterly inspections and reports required by WVDEP (also for both facilities).
- Nuclear density testing of the coarse refuse used to construct the embankments.
- Decant pipeline design.
- Underdrain design.
- Construction monitoring.
- Surveying.
- Development and annual updating of the Monitoring and Emergency Warning Plan and Procedures.

POTESTA has also provided Kanawha Eagle with geotechnical services including exploratory drilling and foundation recommendations for a new refuse belt and two concrete silos. POTESTA also prepared an Underground Injection Control permit (required by WVDEP, Office of Water Resources) for Kanawha Eagle so that they can dispose of slurry in an underground mine.





# MAHAN TIPPLE AND REFUSE AML MAINTENANCE PROJECT

Thaxton Construction Company Fayette County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Thaxton Construction Company to provide construction layout for the Mahan Tipple and Refuse Maintenance AML Project in Fayette County, West Virginia. Thaxton Construction Company had been contracted by the West Virginia Department of Environmental Protection (WVDEP) Office of Abandoned Mine Lands and Reclamation (AML) to perform maintenance on an AML refuse pile, originally reclaimed in the late 1980's, that had a significant failure near the toe of the refuse pile.

Proposed maintenance included excavation of material near the toe, installation of a rock buttress at the toe (approximately 1,000 cubic yards), installation of two grouted riprap channels totaling approximately 300 feet, and regrading and revegetation. Total proposed excavation was approximately 10,000 cubic yards. Construction documents for the project were prepared by another consultant.

#### POTESTA's tasks for the project included:

- 1. Construction layout of lines/grades for earthwork, including survey of "pre-construction" and "post-construction" cross sections.
- 2. Construction layout of proposed channels.
- 3. Computation of (or assistance with) certain as-built quantities, including earthwork, channels, and revegetation.
- 4. Submittal of "post-construction" cross section drawings depicting existing and final grades.



# TUPPERS CREEK (LAYNE) LANDSLIDE AML RECLAMATION PROJECT

Thaxton Construction Company Kanawha County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Thaxton Construction Company to provide construction layout for the Tuppers Creek (Layne) Landslide AML Project in Kanawha County, West Virginia. Thaxton Construction Company was contracted by the West Virginia Department of Environmental Protection (WVDEP) Office of Abandoned Mine Lands and Reclamation (AML) to perform reclamation on an AML landslide.

Proposed reclamation included mobilization and demobilization, construction layout, quality control, site preparation, access road resurfacing, unclassified excavation, erosion control matting, gravity line, manholes, wet mine seals, underdrain, energy dissipater, erosion and sediment control, and revegetation. Total proposed excavation was approximately 2,600 cubic yards. Construction documents for the project were prepared by another consultant.

POTESTA's proposed tasks for the project included:

- 1. Construction layout of lines/grades for earthwork, including survey of "pre-construction" and "post-construction" cross sections.
- 2. Computation of (or assistance with) certain as-built quantities, including earthwork and revegetation.
- 3. Submittal of "post-construction" cross section drawings depicting existing and final grades.



# West Virginia Department of Environmental Protection Office of Abandoned Mine Lands & Reclamation

## Principal-in-Charge

Dana L. Burns, PE – 39 Yrs.

## **Project Manager**

Dave Sharp, PE – 24 Yrs.

# Field Reconnaissance, Preliminary Design, and Final Design of Reclamation Plan, Preparation of Construction Documents

Tim Rice, EIT – 35 Yrs. Everett Mulkeen, PE – 5 Yrs. Chad Griffith, PE – 14 Yrs. Jarrett Smith, PE – 17 Yrs. Patrick Ward, PE – 26 Yrs. Patrick Taylor, PE – 26 Yrs. Robert Ammirato, PE – 19 Yrs.

#### Soils, Geological, and Hydrological Evaluations

Dave Sharp, PE – 24 Yrs. Chris Grose – 28 Yrs. Jeremi Stawovy, EIT – 6 Yrs.

#### **Subcontractors**

Drilling of Soil Borings, Laboratory Soils, and Water Testing

#### Surveying

Victor Dawson, PS – 37 Yrs.

Brad Starkey – 30 Yrs.

Charles Shaffer – 19 Yrs.

Rusty Hunter – 36 Yrs.

Richard Smith – 6 Yrs.

Greg Hodges – 23 Yrs.

#### **Construction Monitoring**

Robert Lamm – 20 Yrs. Gary Bridgette – 15 Yrs. Bill Cox – 20 Yrs. Mike Whitman – 28 Yrs.

#### **CAD Designers**

Scott Bolyard – 27 Yrs. Michael Sankoff – 31 Yrs. Brian Leedy – 22 Yrs. Russ Lester – 29 Yrs. Joe Martin – 24 Yrs. Chuck Willis – 42 Yrs. Chuck Bird – 25 Yrs.

## Project Advisors (as needed)

D. Mark Kiser, PE – 34 Yrs. Terence C. Moran, PE – 29 Yrs.

## Water Line Design

Terence C. Moran, PE – 29 Yrs. Mark Sankoff, PE – 36 Yrs. Michael Smith, PE – 8 Yrs. Terry Myers – 34 Yrs.

# Figure 1