

# TRANSMITTAL LETTER

7012 MacCorkle Avenue, SE, Charleston, WV 25304 • Phone: (304) 342-1400 • Fax: (304) 343-9031

**To:** Mr. Chuck Bowman  
WV Purchasing Division  
2019 Washington Street, East  
Charleston, West Virginia 25305-0130

**Date:** May 5, 2009  
**Project No.:** 0101-09-0161

**Sent Via:**    Mail                       Federal Express             United Parcel Service  
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Quantity	Description
1	Expression of Interest for Site Characterization Study, Leachate Management and Closure Cap Design, and Quality Assurance and Quality Control for the South Charleston Landfill, RFQ No. DEP14619
3	CD of Expression of Interest for Site Characterization Study, Leachate Management and Closure Cap Design, and Quality Assurance and Quality Control for the South Charleston Landfill, RFQ No. DEP14619
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECEIVED  2009 MAY -5 AM 11: 27  WV PURCHASING  DIVISION </div>	
<b>Remarks:</b>	

**By:** Dana L. Burns/clr  
**c:** \_\_\_\_\_

**EXPRESSION OF INTEREST  
SITE CHARACTERIZATION STUDY,  
LEACHATE MANAGEMENT AND CLOSURE  
CAP DESIGN, AND QUALITY ASSURANCE  
AND QUALITY CONTROL FOR THE  
SOUTH CHARLESTON LANDFILL  
RFQ NO. DEP14619**

*Prepared for:*

**West Virginia Department of Environmental Protection  
Office of Waste Management  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304-2345**

*Submitted to:*

**Mr. Chuck Bowman, Buyer  
Purchasing Division  
2019 Washington Street, East  
Charleston, West Virginia 25305-0130**

*Prepared by:*

**Potesta & Associates, Inc.  
7012 MacCorkle Avenue, SE  
Charleston, West Virginia 25304  
Phone: (304) 342-1400 Fax: (304) 343-9031  
E-Mail: potesta@potesta.com**

Project No. 0101-09-0161

May 5, 2009

**POTESTA**

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**EXPRESSION OF INTEREST  
SITE CHARACTERIZATION STUDY, LEACHATE  
MANAGEMENT AND CLOSURE CAP DESIGN, AND  
QUALITY ASSURANCE AND QUALITY CONTROL  
FOR THE SOUTH CHARLESTON LANDFILL  
RFQ NO. DEP14619**

**1.0 INTRODUCTION**

Potesta & Associates, Inc. (POTESTA) is well qualified to provide site characterization study, leachate management and closure cap design, and quality assurance and quality control services to the West Virginia Department of Environmental Protection, Landfill Closure Assistance Program (WVDEP, LCAP) for the South Charleston Landfill Project. Our expression of interest addresses the requirements as stipulated in RFQ No. DEP14619.

POTESTA has completed the No-Debt Affidavit in accordance with the instructions in the request for quotation (RFQ). Our signed no-debt affidavit can be found in **Appendix A**. POTESTA's signed Expression of Interest (EOI) can also be found in **Appendix A**.

POTESTA's corporate qualifications are summarized in Section 2.0. Related Prior Experience is provided in Section 3.0. Our Consultant Confidential Qualification Questionnaire is included in **Appendix B**. Our registered professional engineers are listed in Section 4.0. Section 5.0 discusses our office work location and work flow chart. POTESTA's organization chart is contained in **Appendix C**. **Appendix D** includes additional corporate information applicable to this project. POTESTA has reviewed information contained in WVDEP's files and completed site visits to the South Charleston Landfill facility to become familiar with the property and site conditions. Based on this information, we have developed a preliminary list of work items for the site characterization study and closure design activities. A discussion of our work plan is included in Section 6.0 of this expression of interest.

**2.0 PRIMARY STAFF (CORPORATE) EXPERIENCE**

POTESTA is an engineering and environmental consulting firm that provides professional services to deliver innovative, cost-effective solutions to complex problems. Our firm has a diversified practice covering engineering (civil, environmental, geotechnical, mechanical, and mining), landfill design, surveying, construction monitoring, permitting, regulatory liaison, site characterization and remediation, and general environmental consulting. Landfill design for expansions and closures and regulatory permitting of these projects are areas of extensive expertise at POTESTA. We have worked on numerous large projects (landfill closures/expansions to industrial parks) throughout the region. Our 15 registered professional engineers, led by Mr. Dana Burns, P.E., Vice President, have over 290 years of experience among them and are supported by a large group of engineers, designers, and surveyors.

Environmental engineering, regulatory liaison and environmental compliance are also areas of exceptional strength for POTE STA. Mr. Ronald R. Potesta, President, served as a former director of the West Virginia Department of Natural Resources and Dr. L. Eli McCoy, former director of the West Virginia Division of Environmental Protection (WVDEP), serves as POTE STA's Vice President of Environmental Consulting.

Our clients include landfills, manufacturers, utility companies, waste management companies, mining and chemical companies, architects, attorneys, financial institutions, insurance companies, colleges/universities, land developers, construction companies, and local, state, and federal government agencies. We provide services to clients throughout the mid-Atlantic region.

POTE STA, formed in 1997, has grown to include the following mix of professionals:

23	Engineers (civil, environmental, geotechnical, mining, chemical, and mechanical)
21	Scientists (biologists, ecologists, environmental scientists, etc.)
4	Geologists/Hydrogeologists
7	Surveyors
9	CADD Operators/Designers
6	Technicians
26	Support and Other Staff

A more detailed breakdown of staff is shown on our completed consultant confidential qualification questionnaire in **Appendix B**.

POTE STA has completed several LCAP projects for the WVDEP. Included among these projects are the landfill closure and sewer line designs for the Fleming Sanitary Landfill and the Jackson County Landfill. The Fleming and Jackson County Landfill closure projects included site assessments of the landfills; monitoring well installation and sampling/analysis; development of conceptual closure plans and cost estimates; development of detailed closure plans; preparation of contract bid documents including technical specifications, drawings, required contractor submittals, quality assurance/quality control requirements, contractor's bid form, and engineer's construction cost estimate. We also performed construction monitoring during the construction phase of the projects. The Fleming Landfill sewer line design included site assessment, feasibility study of possible sewer line design, design of the sewer line, preparation of contract documents, preparation of permit applications, and negotiations with Sissonville Public Service District. POTE STA also completed the design for a sewer line extension serving the Jackson County Landfill. POTE STA completed QA/QC services for the Wyoming County Landfill closure project, Fleming Sanitary Landfill closure project, and Jackson County Landfill closure project. POTE STA's staff of engineers, surveyors, computer drafting and design operators, technicians, and construction inspectors has relevant experience with the West Virginia Landfill Closure Assistance Program.

We are familiar with the requirements as contained in the Title 33, Series 1 Solid Waste Management Rules that govern work on landfill closure projects and the Bureau of Public Health Rules that govern the design and construction of sewer lines and pump stations. We are also

experienced with the typical design expectations and requirements of the Landfill Closure Assistance Program based on experience gained from our work on past landfill closure projects from 1997 through the present. This experience will allow POTEESTA to continue to provide engineering and related services to meet the requirements of LCAP.

POTEESTA has successfully performed several projects for WVDEP within project timelines and proposed budgets and looks forward to continuing to do so under this contract. POTEESTA's staff has 100+ years combined experience working on landfill projects and 100+ years combined experience working on the types of projects expected under this contract. Our commitment is to provide quality service, rapid response and project completion, and to exceed your expectations for services performed under this contract. The track record of our professionals working with WVDEP personnel demonstrates our ability and commitment.

POTEESTA offers expertise in the following professional services.

- ▶ 404 Permit Preparation and Negotiation
- ▶ Acid Mine Drainage Control
- ▶ Asbestos Inspection
- ▶ Biological Studies
- ▶ CADD Services (AutoCAD, Microstation, Various Software Design Packages, Digitizing and Plotting)
- ▶ 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
- ▶ 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
- ▶ Landfill Closure Plans
- ▶ Landscape Architecture
- ▶ Mining Engineering
- ▶ Mixing Zone Analysis
- ▶ Multimedia Sampling (Air, Fly Ash, Rock, Soil, Water)
- ▶ Permitting (Air, FERC, Fly Ash Haulback, Mining, NPDES, Quarry and Solid and Hazardous Waste)
- ▶ Permitting and Compliance
- ▶ Pollution Prevention and Waste Minimization Planning
- ▶ 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
- ▶ Retaining Wall Design
- ▶ 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
- ▶ Slope Stability Analysis
- ▶ Spill Prevention Control and Countermeasures Plans
- ▶ Stabilization and Closure of Waste Impoundments
- ▶ Storm Water Management and Permitting
- ▶ Stream Benthic Macroinvertebrate Surveys
- ▶ Toxicity Evaluations
- ▶ 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

### 3.0 RELATED PRIOR EXPERIENCE

POTESTA is well qualified to provide all of the services as described in the scope of services of the request for qualifications: site investigation of existing features, surveying and mapping, laboratory analysis of soil and water, subsurface investigations to determine location as well as limits and depths of waste, location of potential borrow areas either on-site or nearby, engineering and design of the capping system to be installed including grading plans and cross sections of the cap system, leachate collection and storage systems, sediment and erosion control plans including required ponds, preparation of construction contract drawings and specifications suitable for letting of construction bids and the QA/QC following design approval and bid processing. POTESTA's previous experience, professional staff, and participation/involvement with the WVDEP LCAP program, other municipal waste landfills, and various industrial landfills will allow us to provide you with a quality project in an efficient manner.

All work for this project will be completed in-house with the exception of aerial mapping, drilling, and laboratory analysis. POTESTA has a staff of 96 engineers, designers, surveyors, scientists, and support personnel. The key personnel section of this technical proposal describes our project team and **Appendix B** contains the qualifications of our key professionals.

We have been providing design services for the expansion/closure of landfill facilities continuously since 1997. Following is a brief description of similar projects completed by POTESTA.

- ◆ WVDEP-LCAP – POTESTA has completed several projects for the Landfill Closure Assistance Program including site assessments, design of closure plans, preparation of contract and related documents, and construction quality assurance monitoring. These projects include:
  - Wyoming County Landfill Construction Quality Assurance Monitoring
  - Fleming Sanitary Landfill Site Assessment
  - Jackson County Sanitary Landfill Site Assessment
  - Fleming Sanitary Landfill Final Design
  - Fleming Sanitary Landfill Construction Quality Assurance Monitoring
  - Jackson County Sanitary Landfill Final Design
  - Jackson County Sanitary Landfill Construction Quality Assurance Monitoring
  - Evaluation of Air Space and Flood Debris Disposal for the McDowell County Landfill and Wyoming County Landfill

- Wyoming County Flood Debris Disposal As-Built Survey
- Fleming Sanitary Landfill Sewer Line Design
- Fleming Sanitary Landfill Sewer Line Construction Quality Assurance Monitoring

Activities completed for these projects included:

1. Surveying to complete topographic mapping. Surveying was completed to establish ground control for use with aerial photography to complete topographic mapping conforming to National Map Accuracy Specifications. POTESTA also edited existing topographic mapping by field survey.
2. Surveying to locate existing features including monitoring wells, leachate seeps, leachate underdrain outfalls, property boundaries, etc. POTESTA also provided surveying to locate new monitoring wells, borings, test pits, soil sample locations, surface water sample locations, and leachate sample locations.
3. Development of topographic mapping using survey data. POTESTA uses Land Development and Civil 3D computer design software to create topographic mapping from survey data.
4. Site assessment of each landfill to determine problem areas and potential impacts. The site assessments included:
  - a. Field reconnaissance to evaluate the conformance of each landfill to the Solid Waste Management Rules.
  - b. Review of historical information to help assess the landfill's impact on surface water and groundwater. Historical information was also reviewed to help POTESTA and LCAP understand the past compliance of the site and violations that occurred.
  - c. Surface water monitoring plan development and implementation to determine the type and degree of impact of the landfill on receiving streams.
  - d. Leachate monitoring plan development and implementation to obtain data on the quantity and quality of leachate generated by the landfill for use in the assessment of and development of leachate management/treatment strategies.
  - e. Test pit program to locate the edge of solid wastes in order that accurate capping plans could be developed. Test pits were also utilized to verify the thickness of existing soil covering solid waste. Test pits were also



excavated in potential soil borrow areas to estimate potential soil volumes and to obtain soil samples for laboratory testing.

- f. Soil boring/rock coring program to assess bedrock formations in order to target potential aquifer zones for installation of groundwater monitoring wells. Borings were also utilized to determine subsurface conditions in conjunction with design of leachate collection systems, leachate storage systems (leachate tanks), landfill slope stability, and to characterize material for planned excavations.
  - g. Laboratory testing on leachate, groundwater, surface water and soils. Leachate, groundwater, and surface water analysis were for WVDEP Phase I parameters. Soil samples were analyzed for engineering properties to determine suitability for use in the cap system and to predict the performance of these materials in the cap.
  - h. Groundwater User Survey for residents located within 1-mile of the landfill. The survey included determination of water-use sources, interviews with residents not served by public water, and sampling of representative private water wells and springs. Results of the well analyses were compared with typical leachate indicators.
  - i. Assessment of existing groundwater monitoring wells to determine their effectiveness in monitoring the uppermost significant aquifer and their conformance to the rules. POTE STA sampled existing groundwater monitoring wells and drilled new monitoring wells.
  - j. Preparation of a final report summarizing findings of the site assessment and recommending proposed closure activities.
- 5. Preparation of conceptual closure plan alternatives with corresponding engineer's construction cost estimates.
  - 6. Preparation of detailed landfill closure bid documents including construction drawings, technical specifications, list of required contractor submittals, list of required quality assurance tasks, bid form, and engineer's construction cost estimate.
  - 7. Attendance and presentation at pre-bid and pre-construction meetings. Bidder and contractor questions were answered and additional information was developed, as required.

8. Preparation of required permit applications and notifications for the project including:
  - a. DEP Solid Waste Facility Permit
  - b. Division of Highways Permit
  - c. Public Lands Corporation Stream Activity Permit
  - d. U.S. Army Corps of Engineers Section 404/401 Permits
  - e. Local Planning Commission Approvals
9. Construction oversight and certifications.

- ◆ Pocahontas County Sanitary Landfill - POTESTA serves as the engineer of record for the Pocahontas County Landfill. Our main projects completed over the last five years include preparation of contract documents (drawings, specifications, bid form, engineer's construction cost estimate, and instructions to bidders) for 4 acres of landfill cap covering two cells, a haul road extension, and two expansions of the composite liner system totaling 2.3 acres. POTESTA was able to negotiate cost savings measures with the WVDEP on both of these projects, including the use of geosynthetic materials. POTESTA helped with the review of bids, made recommendations as to the most favorable bid, provided construction oversight, and prepared certifications required prior to WVDEP approval of the closure areas and the new waste cells. POTESTA also helped Pocahontas County Landfill by negotiating a much reduced monetary fine covering 77 notices of violations. POTESTA met with WVDEP and negotiated a 75 percent reduction of the original fine amount. We also prepared a Supplemental Environmental Project to allow three-fourths of the fine to be directed to a tire recycling project. POTESTA also provides annual surveys and volume computations required for the year-end reports required by WVDEP, assists Pocahontas County Landfill with leachate treatment issues, has helped the landfill with compliance issues, and has served as a liaison with WVDEP permitting and enforcement.
- ◆ Fort Martin CCB Landfill Expansion – POTESTA was retained by Allegheny Energy Supply as the engineer of record for a new landfill to serve the Fort Martin Power Station in Monongalia County, West Virginia. POTESTA first completed a siting study to identify and evaluate candidate sites for the new landfill. Following selection of the preferred site, POTESTA completed a permit application for the new landfill and detailed design drawings, technical specifications, bid documents, engineer's construction cost estimate, and quality assurance/quality control plan. The project included approximately 100 acres of composite liner with leachate collection system and two lined ponds for collection of leachate and stormwater.

POTESTA prepared a detailed bid package for the first phase of construction including 40 acres of a composite-lined landfill cell, one 2-acre double-lined pond, leachate pump station and a 6000-foot force main, access roads, and a concrete pad for a stacking conveyor stockpile.

POTESTA has completed QA/QC services during construction. The contract amount for the initial phase of construction was \$10,000,000.

- ◆ Nicholas County Landfill - POTESTA has completed several projects for the Nicholas County Landfill including permitting approval and the detailed design of a sediment control pond and a leachate storage tank for the landfill. POTESTA prepared drawings and specifications, assisted with the solicitation of bids, and oversaw construction of the pond and tank. POTESTA has also performed several year-end surveys and volume reports for landfill airspace utilization.
- ◆ Dry Run Landfill - DuPont retained the services of POTESTA in 1997 to assist their in-house environmental department in obtaining a favorable renewal of their landfill permit for Dry Run Landfill. Dry Run Landfill dated back to before the Title 33 Series 1 Solid Waste Management Rules and did not include the required leachate collection systems or liner systems. POTESTA worked with DuPont and the WVDEP to design and permit improvements to the landfill that DuPont could implement in light of budget constraints and the WVDEP could accept in light of the Solid Waste Management Rules.

The liner system used synthetic-only components for cost savings and ease of construction. POTESTA supplemented information developed by DuPont including engineering calculations and drawings and negotiated with WVDEP for a permit renewal. POTESTA attended the public hearing and assisted both DuPont and WVDEP through the public comment period in responding to comments.

POTESTA developed contract/bid documents for two different expansions for the facility including drawings, specifications, instructions to bidders, and bid forms. The projects included 10 acres of a synthetic liner/leachate collection system, lined leachate storage pond, new landfill access road, stormwater control devices, and new monitoring well construction. POTESTA provided construction oversight and certification of the newly constructed features.

- ◆ Brooke County Landfill – POTESTA provided quality assurance/quality control monitoring and certification of two landfill expansion cells at Brooke County Landfill. Included was compaction testing of the clay subbase, monitoring of HDPE geomembrane, drainage net and geotextile layers.
- ◆ Wetzel County Landfill – POTESTA provided quality assurance/quality control monitoring and certification of an expansion of the Wetzel County Landfill including monitoring of the installation of HDPE geomembrane, drainage net, and geotextile.

- ◆ Industrial Waste Landfill - POTESTA provides environmental and engineering services to a national manufacturing company for their industrial waste landfill located near Charleston, West Virginia. POTESTA has completed several projects to support the closure and ongoing post-closure maintenance at the facility. Included was:
  - Development of detailed topographic mapping of the landfill and surrounding area.
  - Detailed design and WVDEP approval of two capped areas totaling about 6 acres, including the use of synthetic layers to achieve a cost savings.
  - Construction of a new “maintenance” waste cell for the containment of small amounts of waste discovered during subsequent operation/closure of the site.
  - Construction of a pump station and double-walled force main sewer for management of leachate from the facility.
  - Permit renewal applications, groundwater monitoring and statistical analysis, and miscellaneous WVDEP compliance activities.
  - Ongoing maintenance and facility care including monitoring, mowing, leachate management, and reporting.
  
- ◆ Elkem Metals’ Jarrett Branch Landfill – POTESTA currently serves as the engineer of record for Elkem Metals’ Jarrett Branch Landfill. POTESTA’s involvement at the landfill includes engineering design and approval from WVDEP for a new waste disposal cell for disposal of manufacturing wastes from the plant, engineering design and approval from WVDEP for closure of a 6-acre cell within the existing landfill area, and year-end surveys/annual reporting for the landfill.
  
- ◆ Surveys for Kanawha Western, Fayette County, Berkeley and Hampshire County Landfills LCAP Construction - POTESTA was retained by the construction contractor to conduct surveying required for project layout, quantity measurement, and as-built record drawings for these landfill closure projects.
  
- ◆ BASF Landfill - POTESTA provides semi-annual sampling, analysis, and reporting of groundwater monitoring wells associated with the closed BASF Landfill in Huntington, West Virginia.

POTESTA’s involvement in these projects included engineering and design services, preparation of contract documents, and completion of permit applications for regulatory approval. Several of the projects included construction monitoring, quality assurance and quality control services, documentation of construction activities, preparation of final summary reports, and certification of the completed construction. These projects included:

- ◆ Specification/drawing review to determine quality assurance/quality control requirements.
- ◆ Developing and following procedures for the required QA/QC items including testing and observation frequency.
- ◆ Developing and utilizing forms and checklists used for QA/QC work.
- ◆ Completion of daily field activity logs and data sheets to record both construction and QA/QC activities.
- ◆ Review of contractor methods and completed work to assess compliance with project specifications and recommended procedures.
- ◆ Reporting of non-compliance and documentation of repairs to achieve compliance.
- ◆ Preparation of certifications.
- ◆ Review of contractor pay applications to verify quantities.
- ◆ Photographic documentation.
- ◆ Maintaining as-built drawings and sketches of the work.
- ◆ Preparation of final summary report and project certification.

**Appendix D** includes service briefs and project abstracts for our engineering and QA/QC capabilities.

#### 4.0 LIST OF PROFESSIONAL ENGINEERS

<b>Professional Engineer</b>	<b>Years of Experience</b>
Dana L. Burns, PE, PS (Charleston Office)	29
D. Mark Kiser, PE, LRS (Charleston Office)	25
Vince Ammirato, PE (Charleston Office)	38
Dave Sharp, PE (Morgantown Office)	14
Clyde Emigh, PE (Morgantown Office)	34
Bill Drinkard, PE, PS (Charleston Office)	34
Patrick Ward, PE (Charleston Office)	17
Terry Moran, PE (Charleston Office)	18
Ryan McGlothen, PE (Charleston Office)	12

<b>Professional Engineer</b>	<b>Years of Experience</b>
Joe Knechtel, PE (Winchester Office)	19
Patrick A. Taylor, PE (Charleston Office)	22
Jarrett Smith, PE (Charleston Office)	6
Kenneth Kinder, PE (Charleston Office)	6
Daniel Lipscomb, PE (Charleston Office)	6
Chad Griffith, PE (Morgantown Office)	6

## **5.0 WORK LOCATION AND ORGANIZATIONAL CHART**

POTESTA will perform this project from our Charleston, West Virginia office. Our office is located in close proximity to WVDEP's Charleston office and the South Charleston Landfill. This will allow for a cost-effective approach to the project. POTESTA can be at WVDEP's office and the site within minutes for required meetings or to resolve critical issues.

Our organizational chart is located in **Appendix D**. Both POTESTA's principal-in-charge (Dana L. Burns, PE) and project manager (D. Mark Kiser, PE) have worked on numerous solid waste landfill design and closure projects and associated QA/QC projects.

POTESTA's team includes experienced construction inspectors. POTESTA's inspectors have experience in working on landfill construction and closure projects. Messrs. Denny Kohler, Ray Workman, Robert Lamm, and Robert Ammirato have worked on numerous landfill construction and closure projects.

POTESTA's project manager and construction inspectors will be supported by engineers, surveyors, CADD operators, and administrative staff as required. Engineering services may include office review of submittals and shop drawings to determine compliance with the project specifications. Engineering services may also include verifying quantities of construction on pay applications and analysis and evaluation of any requests for change proposed by the contractor. Surveying may include checking the contractor's layout, surveys for quantity verification, and surveying to prepare as-built drawings. CADD services may include developing as-built record drawings.

## **6.0 PRELIMINARY WORK PLAN**

POTESTA has developed this preliminary work plan following a site visit and limited review of records regarding the South Charleston Landfill. The following list summarizes our approach to the project.

1. POTEESTA will review property ownership information (deeds and plats) to verify the extent of the City of South Charleston property. We will verify that the landfill and proposed work areas are on the City's property.
2. POTEESTA will develop topographic mapping of the landfill area, borrow areas, access roads, and sewer line. POTEESTA's surveyors will establish ground control. GeoOne Mapping Services will develop aerial photography and contour mapping. POTEESTA will establish survey benchmarks.
3. POTEESTA will review information available from regulatory agencies and the City of South Charleston to obtain historical information to be used in the site characterization study and design.
4. POTEESTA will complete a subsurface exploration to locate the edge and depth of waste, areas of potential soil borrow, and the depth of soil cover over areas of waste.
5. POTEESTA will select soil and rock samples from the subsurface exploration for laboratory analysis of engineering properties in order to characterize potential soil and rock borrow areas. This information will be used in planning and design and will be available to bidders.
6. POTEESTA will obtain water samples from the culvert exiting the landfill and from below the existing pond to assess the landfill's impact to surface water.
7. POTEESTA will evaluate areas at the toe of the landfill for the leachate storage tank and a new sediment pond. This evaluation will include a subsurface exploration to (1) identify suitable foundation material for construction of the leachate storage tank and (2) determine the location of bedrock for design of the sediment pond. Every attempt will be made to avoid rock excavation for construction of the sediment pond.
8. Based on the results of the test pit subsurface exploration program, POTEESTA will evaluate consolidation of waste in order to reduce the size of the landfill cap required. The current top of landfill area is flat and lacks proper slope. POTEESTA will evaluate removing waste from around the edges of the landfill and filling over the "flat" top area to achieve a 4:1 slope.
9. POTEESTA will evaluate and design perimeter run-on control (clean water diversions) to route surface runoff around the landfill and sediment pond. POTEESTA will evaluate and design runoff collection channels to direct runoff from disturbed areas to the new sediment pond.
10. POTEESTA will evaluate and design a passive gas venting system as well as a gas management and monitoring plan.

11. POTESta will evaluate the need for a leachate cutoff drain around the toe of the landfill. During our site visit, we noticed several leachate seeps on the face of the landfill. POTESta believes these seeps can be collected under the proposed cap using underdrains directed into the leachate cutoff drain and then to the leachate storage tank.
12. POTESta will evaluate the existing sewer conveying leachate to the South Charleston Sanitary Board sewer system. This line is exposed and in a creek bed below the landfill. POTESta will verify the integrity of the sewer line and design a replacement for segments needing replaced.
13. POTESta will select and design a leachate flow meter and data recorder.
14. POTESta will develop a reclamation and revegetation plan for areas disturbed as part of closure construction.
15. POTESta will develop a fencing and access road plan for the landfill. Perimeter fencing and gates will be designed around the perimeter of the landfill cap area. Access roads will be provided to groundwater monitoring wells, the leachate tank, and sediment pond.

POTESta understands that a hydrogeological investigation was completed at the landfill and three new monitoring wells were installed to bring the landfill into compliance with the 33CSR1 groundwater monitoring standards. POTESta will sample the groundwater monitoring wells and analyze the data if required.

## **7.0 CLOSING**

POTESta is excited about the opportunity to work with the WVDEP on this project. POTESta believes it understands the scope of work, has assembled a highly-qualified technical team, and has the adequate staffing to handle the logistics of this project.





State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
**DEP14619**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**CHUCK BOWMAN**  
**304-558-2157**

**RFQ COPY**

**TYPE NAME/ADDRESS HERE**

Potesta & Associates, Inc.  
 7012 MacCorkle Avenue, SE  
 Charleston, WV 25304

**ENVIRONMENTAL PROTECTION**

DEPARTMENT OF  
 OFFICE OF WASTE MANAGEMENT  
 601 57TH STREET SE  
 CHARLESTON, WV  
 25304 **304-926-0499**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
04/02/2009				

BID OPENING DATE: **05/05/2009** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		
<p><b>SOUTH CHARLESTON LANDFILL CLOSURE DESIGN &amp; QA/QC</b></p> <p><b>EXPRESSION OF INTEREST</b></p> <p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING EXPRESSIONS OF INTEREST FOR SITE CHARACTERIZATION STUDY, LEACHATE MANAGEMENT &amp; CLOSURE CAP DESIGN, AND QUALITY ASSURANCE/QUALITY CONTROL FOR THE SOUTH CHARLESTON LANDFILL PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.</p> <p><b>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID AND IS TERMINATED WITHOUT FURTHER ORDER.</b></p>						
<p>***** THIS IS THE END OF RFQ DEP14619 ***** TOTAL:</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Dana L Burns</i>	TELEPHONE (304) 342-1400	DATE May 5, 2009
TITLE Vice President	FEIN 311509066	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

STATE OF WEST VIRGINIA  
Purchasing Division

## PURCHASING AFFIDAVIT

**VENDOR OWING A DEBT TO THE STATE:**

**West Virginia Code** §5A-3-10a provides that: 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 the debt owed is an amount greater than one thousand dollars in the aggregate.

**PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:**

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the **West Virginia Code**. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the **West Virginia Code** and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the **West Virginia Code** may take place before their work on the public improvement is begun.

**ANTITRUST:**

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

**LICENSING:**

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:**

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (**West Virginia Code** §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

Vendor's Name: Potesta & Associates, Inc.  
 Authorized Signature: *Dana L. Burns* Date: May 5, 2009

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
LANDFILL CLOSURE CONSULTANT QUALIFICATION QUESTIONNAIRE**

PROJECT NAME South Charleston Landfill Closure Design and QA/QC		DATE (DAY, MONTH, YEAR) 5, May, 2009	FEIN 31-1509066
1. FIRM NAME Potesta & Associates, Inc.	2. HOME OFFICE BUSINESS ADDRESS 7012 MacCorkle Avenue, SE Charleston, WV 25304	3. FORMER FIRM NAME Not Applicable	
4. HOME OFFICE TELEPHONE (304) 342-1400	5. ESTABLISHED (YEAR) 1997	6. TYPE OWNERSHIP INDIVIDUAL, <input checked="" type="checkbox"/> CORPORATION, PARTNERSHIP, JOINT-VENTURE	6A. WV REGISTERED DBE (DISAVANTAGED BUSINESS ENTERPRISE) YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type) PERSONNEL EACH OFFICE 7012 MacCorkle Avenue, SE, Charleston, WV 25304 / (304) 342-1400 / Dana L. Burns / 88 Employees			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Ronald R. Potesta, President Dana L. Burns, PE, Vice President Laidley Eli McCoy, Ph.D., Vice President		8a. NAME, TITLE, & TELEPHONE NUMBER-OTHER PRINCIPALS Not Applicable	
9. NUMBER OF PERSONNEL BY DISPLINE ( <b>Bold Lettering Indicates Minimum Design Team Members</b> ) <b>Detailed information On Team To Be Included</b>			
16 <b>ADMINISTRATIVE</b>	3 <b>ECOLOGISTS</b>	1 <b>LANDSCAPE ARCHITECTS</b>	0 <b>STRUCTURAL ENGINEERS</b>
0 <b>ARCHITECTS</b>	1 <b>ECONOMISTS</b>	1 <b>MECHANICAL ENGINEERS</b>	8 <b>SURVEYORS</b>
9 <b>BIOLOGIST</b>	0 <b>ELECTRICAL ENGINEERS</b>	2 <b>MINING ENGINEERS</b>	2 <b>OTHER</b>
8 <b>CADD OPERATORS</b>	9 <b>ENVIRONMENTALISTS</b>	0 <b>PHOTOGRAMMETRISTS</b>	
1 <b>CHEMICAL ENGINEERS</b>	1 <b>ESTIMATORS</b>	0 <b>PLANNERS: URBAN/REGIONAL</b>	96 <b>TOTAL PERSONNEL</b>
16 <b>CIVIL ENGINEERS</b>	2 <b>GEOLOGIST</b>	3 <b>SANITARY ENGINEERS</b>	
5 <b>CONSTRUCTION INSPECTORS</b>	0 <b>HISTORIANS</b>	4 <b>SOILS ENGINEERS</b>	
2 <b>DESIGNERS</b>	1 <b>HYDROLOGISTS</b>	1 <b>SPECIFICATION WRITERS</b>	
** <b>DRAFTSMEN</b>			
(** See CADD Operators)			
<b>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 11</b>			
<b>*RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.</b>			

10. If submittal is by joint venture, list participating firms & outline specific areas of responsibility (including administrative, technical, & financial) for each firm. Each participating firm must complete a "Consultant Confidential Qualification Questionnaire".

10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE?  YES  NO

11. OUTSIDE KEY CONSULTANTS/ SUB-CONSULTANTS ANTICIPATED TO BE USED.		
NAME AND ADDRESS: GeoOne Mapping Services 6455 East Livingston Ave. Reynoldsburg, OH 43608	SPECIALTY: Aerial Photography and Topographic Mapping	WORKED WITH BEFORE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS: American Geotech, Inc. 601 Ohio Avenue Charleston, WV 25302	SPECIALTY: Laboratory Analysis of Soil and Rock Samples, Geotechnical Drilling	WORKED WITH BEFORE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS: Bio-Chem Testing, Inc. 5 Weatheridge Drive Hurricane, WV 25526	SPECIALTY: Laboratory Analysis of Water Samples	WORKED WITH BEFORE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO

12. \*\*\*Note: *Personnel refers to those who will be working directly on the project:*

A. Are your firm's personnel experienced in Solid Waste Landfill Closure Design?

**YES** **Description and Number of Projects:**  
 See Attachment 12.A.

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**NO**

B. Are your firm's personnel experienced in Solid Waste landfill site characterization assessment and evaluation?

**YES** **Description and Number of Projects:**  
 See Attachment 12.B.

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**NO**

C. Are your firm's personnel experienced in landfill closure construction inspection?

**YES** **Description and Number of Projects:**  
 See Attachment 12.C.

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**NO**

D. Is your firm experienced in Aerial Photography and the Development of Contour Mapping?

**YES** **Description and Number of Projects:**  
 See Attachment 12.D.

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**NO**

E. Are your firm's personnel experienced in evaluating ground water contamination, such as may be associated with landfills?

**YES** **Description and Number of Projects:**  
 See Attachment 12.E.

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**NO**

F. Are your firm's personnel experienced in Landfill Closure cost estimating?

**YES** **Description and Number of Projects:**  
 See Attachment 12.F.

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**NO**

<b>13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (describe project) (Furnish Complete data but keep to essentials)</b>			
NAME& TITLE (Last, first, Middle Int.)	YEARS OR EXPERIENCE		
	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:	YEARS OF (name type) EXPERIENCE:
Burns, Dana L. Vice President	30		
<p>Brief Explanation of Responsibilities:</p> <p>Preparation of Landfill Expansion Revisions, permit revisions and permit negotiation. Detailed review of hydrogeology and groundwater flow regime. Management of QA/QC for landfill expansion including clay/synthetic liner system, double walled leachate tank, sedimentation pond, drainage channels and associated facilities.</p> <p>Management of non-hazardous industrial landfill design project involving design report, technical specifications, construction drawings, QA/QC manual, operation manual, permit application, and environmental assessment. Included meetings with state and federal regulatory agencies. Also three site selection studies. Complete geologic and hydrogeologic investigations including installation of monitoring wells.</p>			
<p>EDUCATION (DEGREE, YEAR, SPECIALIZATION)</p> <p>MS / 1979 / Civil Engineering  BS / 1978 / Civil Engineering  OSHA 40-Hour HAZWOPER Certification</p>			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:		REGISTRATION (Type, Year, State)	
American Society of Civil Engineers National Society of Professional Engineers WV Association of Consulting Engineering Companies		Professional Engineer: WV – 1985, IL – 1994	
<b>13a. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (name type of design or work) (Furnish complete data but keep to essentials)</b>			
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
Kiser, David M. Chief Engineer	25		
<p>Brief Explanation of Responsibilities:</p> <p>Project manager responsible for Department of Environmental Protection's Landfill Closure Assistance Program from 1997 through 2008. Performed engineering and project management on the following projects.</p> <ul style="list-style-type: none"> <li>- Wyoming County Landfill quality assurance monitoring</li> <li>- Fleming Sanitary Landfill closure project design</li> <li>- Fleming Sanitary Landfill quality assurance monitoring</li> <li>- Jackson County Landfill closure project design</li> <li>- Fleming Sanitary Landfill site assessment</li> <li>- Jackson County Landfill site assessment</li> <li>- Fleming sewer line design</li> <li>- Jackson County Landfill sewer line design</li> <li>- Jackson County Landfill Closure quality assurance/quality control monitoring</li> <li>- Fleming Landfill sewer quality assurance/quality control monitoring</li> </ul> <p>Project Manager responsible for construction quality assurance monitoring for three landfill expansions at Brooke County Sanitary Landfill, including 6.5 acres of composite liner.</p>			

Project Manager for preparation of response action plan, construction drawings and specifications, and construction quality assurance monitoring for capping of a 3-acre area used for industrial purposes.

Project Manager responsible for construction quality assurance monitoring for 0.8-acre composite liner expansion at Wetzel County Landfill.

Project Manager/Project Engineer for design of two composite liner system expansions totaling 3 acres, design and construction quality assurance for two 2-acre final landfill caps, and design of a new access road serving Pocahontas County Landfill.

Project Manager for design and permitting of a CCB landfill including 40-acre composite liner system, 2-acre leachate and stormwater lined pond, lined conveyor stockpile area, pump station, 6000 feet of 12-inch force main at Fort Martin, WV. Construction cost was \$10,000,000.

**EDUCATION (Degree, Year, Specialization)**

BS / 1984 / Civil Engineering  
OSHA 40-Hour HAZWOPER Certification

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

American Society of Military Engineers

**REGISTRATION (Type, Year, State)**

Professional Engineer: WV - 1990,  
IN - 1998, SC - 2000  
Licensed Remediation Specialist: WV

**13b. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE QA/QC (Furnish complete data but keep to essentials)**

**NAME & TITLE (last, first, middle int.)**

**YEARS OF EXPEIRENCE**

Grose, Christopher A.  
Senior Engineering  
Associate I

**YEARS OF EXPERIENCE (name type):**

18

**YEARS OF EXPERIENCE (name type):**

**YEARS OR EXPERIENCE (name type):**

**Brief Explanation of Responsibilities:**

- Landfill Closure Design/Leachate Collection, Montgomery Landfill, Montgomery, WV
- Municipal Landfill Permitting and Design, North Fork Landfill, Wheeling, WV
- Municipal Landfill Permitting and Design, Sycamore Landfill, Hurricane, WV
- Closure Plan Development/Groundwater Investigation and Monitoring, AA-4 Chemical Sludge Impoundment, Willow Island
- Closure Design and Construction Management of 7-Acre Biological Sludge Pond, Pump A-3, Nitro, WV

**EDUCATION (Degree, Year, Specialization)**

MS / 1990 / Geological Engineering  
BS / 1988 / Civil Engineering

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

National Groundwater Association

**REGISTRATION (Type, Year, State)**

Licensed Remediation Specialist, 1995, WV

13c. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES <b>RESPONSIBLE FOR HEAVY EARTH WORK CONSTRUCTION PROJECTS</b> (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type)	YEARS OF EXPERIENCE (name type)	YEARS OF EXPERIENCE (name type)
Kinder, Kenneth W. Staff Engineer	6		
<b>Brief Explanation of Responsibilities</b> Civil/site design, hydrology analysis, hydraulic design, stormwater management, floodplain management, erosion and sediment control, wastewater treatment, landfill design, computer modeling associated with hydrology and hydraulics, construction cost estimating.			
<b>EDUCATION (Degree, Year, Specialization)</b> BS / 2003 / Civil Engineering			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> American Society of Civil Engineers (ASCE)		<b>REGISTRATION (Type, Year, State)</b> Registered Professional Engineer, 2008, WV	



14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE THIS PROJECT (name project)
Microsoft Office XP (Excel, Access, Word, PowerPoint)
Corel Office 2000 (Quattro Pro, WordPerfect, Presentations)
Haestad Methods Hydraulic Software for Channel, Culvert, and Pond Design
AutoCAD 2007, Civil 3D
HELP (Hydrologic Evaluation of Landfill Performance) Computer Model
Microstation V-8
TR-55 Software for Precipitation and Hydrologic Modeling
Autodesk Land Desktop 3 (3D Modeling Software for Topographic Analysis)
HEC-HMS and HEC-RAS for Modeling of Watersheds and River/Stream Flows
Maptech, Terrain Navigator (Regional Topographic Mapping Database)
Softdesk 8.0 Civil/Survey Design Software
gINT Geotechnical/Geoenvironmental Software (Relational Database for Digital Boring Logs, Well Construction Details, Cross Sections, Etc.)
EQUIS V3.7 (Relational Database for Organization, Screening, and Presentation of Environmental Analytical Quality Data)
Surfer 8 (Contouring/3D Mapping Software)
GMS 5.0 (Groundwater Modeling Software)
ArcView 9 (Geographic Information System)
Troxler Moisture-Density Testing Gage
Miscellaneous Concrete and Grout Testing Equipment
Soil Proving Ring to Determine Bearing Capacity of Soils
Digital Cameras for Photographic Documentation of Construction
Monitoring Well Sampling Equipment Including Pumps, Bailers, and Supplies

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD ASSOCIATED WITH OR RELATING TO LANDFILL CLOSURE OR CONSTRUCTION.				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Fort Martin CCB Landfill, 40-Acre Landfill Expansion, Fort Martin, Monongalia County, WV	Allegheny Energy 800 Cabin Hill Dr. Greensburg, PA 15601 (724) 838-6878	Detailed design of landfill, ponds, leachate pumping system, preparation of bid documents, permitting, and quality assurance/quality control monitoring.	\$10,000,000	100% Design 40% QA/QC
City of Elkins Landfill Expansion, Elkins, Randolph County, WV	City of Elkins 401 Davis Avenue Elkins, WV 26241 (304) 638-7021	Design and permitting of MSW and C&D waste cells expansion, preparation of bid documents, QA/QC monitoring.	\$400,000	5%
Big Bear Lake Landfill Closure Project, near Hazelton, WV	WVDEP 2031 Pleasant Valley Road Fairmont, WV 26554 Mr. Paul Benedum	Site characterization, design, preparation of bid documents, and permitting for removal of the Big Bear Lake Campground Landfill.	\$400,000	95%
Spelter Smelter Voluntary Remediation Project, Spelter, Harrison County, WV	DuPont Corp. Remediation Group 3317 Lancaster Pike Barley Mill Plaza Wilmington, DE 19805 Sathya Yalvigi (302) 892-8035	LRS oversight, surface water sampling, monthly inspections, coordination with WVDEP on a capped 40-acre landfill.	\$14,000,000	90%
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS:	
# 4			\$ 24,800,000	

**16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS RELATING TO LANDFILL CLOSURE AND CONSTRUCTION.**

PROJECT NAME, TYPE, AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST:	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Fleming Landfill Sewer Project, Engineering, Permitting and Preparation of Bid Documents, Pocatalico, WV	WVDEP 601 57 <sup>th</sup> Street , SE Charleston, WV 25304 Clyde Bennett (304) 872-3800	\$1,000,000	2006	Yes
Harrison Power Station, Permitting Associated with Approval of an alternate Liner System, Shinnston, WV	Allegheny Energy Supply 800 Cabin Hill Drive Greensburg, PA 15601 Ralph Bersani	N/A	2005	Yes
Possible New Landfill, Site Studies Related to a Possible New Municipal Waste Landfill, Mineral County, WV	Consolidated Waste PO Box 90565 Washington, DC 20090 Tony Lash (301) 322-3000	N/A	2007	No
Pocahontas County Landfill, Engineering, Design and Preparation of Bid Documents for Cell 3A Expansion Area, Dunmore, WV	Pocahontas County Solid Waste Authority 900-C Tenth Avenue Marlinton, WV 26181 Ed Riley (304) 799-6262	\$350,000	2004	Yes
Pocahontas County Landfill, Engineering, Design and Preparation of Bid Documents for Cell 1B Cap and Closure, Dunmore, WV	Pocahontas County Solid Waste Authority 900-C Tenth Avenue Marlinton, WV 26181 Ed Riley (304) 799-6262	\$300,000	2005	Yes
Pocahontas County Landfill, QA/QC Monitoring of Cell 2A Cap and Closure, Dunmore, WV	Pocahontas County Solid Waste Authority 900-C Tenth Avenue Marlinton, WV 26181 Ed Riley (304) 799-6262	\$300,000	2007	Yes

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Pocahontas County Landfill, QA/QC Monitoring of Cell 3B Expansion, Dunmore, WV	Pocahontas County Solid Waste Authority 900-C Tenth Avenue Marlinton, WV 26181 Ed Riley (304) 799-6262	\$350,000	2008	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS IN WHICH YOUR FIRM HAS BEEN A SUBCONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK WHICH YOUR FIRM WAS RESPONSIBLE) LIST 5 TO 7.

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
Disposal Service, Inc. Landfill, Hurricane, WV – Survey Layout	Disposal Service, Inc. Landfill Hurricane, WV 25526	\$20,000 (fee) Surveying	2004	Yes	Central Contracting, Inc.
City of Charleston Landfill, Charleston, WV – Survey Layout	City of Charleston Charleston, WV	\$20,000 (fee) Surveying	2006	Yes	Central Contracting, Inc.
Spelter Smelter Plant Closure Area, Clarksburg, WV – QA/QC	DuPont Engineering PO Box 80027 Wilmington, DE 19880 Sathya Yalvigi (302) 892-8035	\$200,000 (fee) QA/QC Monitoring	2005	Yes	URS Diamond

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the WV Department of Environmental Protection.

Refer to POTESTA's Expression of Interest for additional information regarding our corporate qualifications, related prior landfill closure experience, and our proposed work plan.

20. The foregoing is a statement of facts

Signature: *Dana L. Burns*  
Title: Vice President

Date: May 5, 2009

Printed  
Name: Dana L. Burns, PE

## ATTACHMENT 12.A

Potesta & Associates, Inc. (POTESTA) and our staff are experienced in solid waste landfill closure design. Section 3.0 of our Expression of Interest presents a list of the landfill construction, closure and quality assurance/quality control projects recently completed by POTESTA. We have presented an expanded description of a few of these projects below. Following are a few examples of our firm's experience.

### **Fleming Sanitary Landfill Closure Plan for WVDEP**

POTESTA was retained by the West Virginia Department of Environmental Protection (WVDEP) to develop bid and construction documents for the Fleming Sanitary Landfill closure project located in Pocatalico, West Virginia. Our services included the design of the closure plan and the preparation of technical specifications, drawings, and related documents for the closure of the 19-acre municipal solid waste landfill.

POTESTA's closure plan included the design of a glass-lined, bolted steel leachate storage tank (primary and secondary); leachate flow metering station; leachate collection drains, piping, and related valves; a new sediment pond including principal and emergency spillways; access roads; regrading of the landfill surface and construction of a landfill toe buttress to improve slope stability of the cap; closure of an existing leachate collection pond; construction of a geosynthetic cap system including gas management geocomposite, 40-mil LLDPE geomembrane, drainage geocomposite, and 2-foot protective soil cover; passive gas venting system; and runoff/run-on control channels and culverts.

POTESTA also prepared a conceptual plan with cost estimates and analysis of pay-back period for construction of a sewer system to convey leachate from the Fleming Sanitary Landfill to the Sissonville Public Service District's sewer system. POTESTA designed and prepared bid documents for a sewer extension to connect the landfill to the Sissonville Public Service District sewer system.

### **Jackson County Sanitary Landfill Closure Plan for WVDEP**

POTESTA was retained by the WVDEP to develop bid and construction documents for the Jackson County Sanitary Landfill closure project. Our services included the design of the closure plan and the preparation of technical specifications, drawings, and related documents for the closure of the 21-acre municipal solid waste landfill.

POTESTA's closure plan included the design of a bolted stainless steel leachate storage tank (primary and secondary); leachate pump station and related high density polyethylene piping and valves; leachate flow metering station with controls and data recorder; leachate collection underdrains; an enlarged sediment pond with principal and emergency spillways; access roadways; regrading of the existing landfill surface to result in the required maximum and minimum slopes; closure of an existing leachate collection pond; construction of a geosynthetic



cap system including gas management geocomposite, 40-mil LLDPE geomembrane, drainage geocomposite, and a 2-foot protective soil cover; passive gas venting system; and run-on/runoff control channels.

POTESTA also prepared plans and specifications for a sewer line to convey flow from the landfill to the City of Ripley's sanitary sewer system.

### **Pocahontas County Landfill Closure of Cell 1-B and Cell 2-A for PCSWA**

POTESTA was retained by the Pocahontas County Solid Waste Authority (PCSWA) to prepare construction documents and provide construction monitoring for closure of two separate 2-acre municipal solid waste cells at the PCSWA's landfill near Dunmore, West Virginia. Our services included the design of the closure plan for Cells 1-B and 2-A and the preparation of construction drawings and technical specifications. The following is a list of closure items:

1. Regrading existing slopes to result in a landfill surface of three horizontal to one vertical or flatter to allow for subsequent capping.
2. Preparation of the existing landfill surface to receive the cap.
3. Construction of leachate seep collector drains on regraded areas on the slope.
4. Construction of the final cap system including a geonet composite gas management layer, flexible membrane cap, geonet composite drainage layer, 2-foot protective soil cover layer, and passive gas vents.
5. Development, operation, and reclamation of an on-site soil borrow area for soil required for construction of the cap.
6. Revegetation of disturbed area.

Construction was completed with POTESTA providing construction monitoring and a certification of construction for both projects.

### **Nine Cell Cap – Armour Creek Landfill for a Chemical Manufacturer**

POTESTA was retained by a chemical manufacturer to prepare construction drawings, technical specifications, engineer's construction cost estimates and bid forms for closure of an industrial landfill in Putnam County, West Virginia. Services included regrading of the site, railroad right-of-way permit, leachate collection, underdrain upgrade, final cap design, and drainage channel design.

### **Landfill Capping Project for a Chemical Manufacturer**

POTESTA was retained by a chemical manufacturing company to provide engineering services for the design of a synthetic capping system for a closed landfill disposal cell. POTESTA initially performed a site assessment to evaluate environmental conditions at the landfill.

POTESTA prepared a detailed design of the cap plan. Included were regrading of the site, construction of a leachate collection underdrain, final cap design, and drainage channel design.

POTESTA prepared construction drawings, technical specifications, engineer's construction cost estimates and bid documents.

### **Central Area Closure Plan and East Cell Berm Extension – Armour Creek Landfill for a Chemical Manufacturer**

POTESTA was retained by a chemical manufacturing company to provide engineering services for the Central Area Closure Plan and East Cell Berm Extension project.

POTESTA prepared a detailed design of the cap and berm extension plans. Included were railroad right-of-way (ROW) permit, West Virginia Division of Highways ROW permit, regrading of the site, final cap design, leachate monitoring system design, and drainage channel design. POTESTA prepared construction drawings, technical specifications, engineer's construction cost estimate and bid form.

## **ATTACHMENT 12.B**

POTESTA is experienced in solid waste landfill site characterization assessment and evaluation. A few examples follow:

### **Fleming Sanitary Landfill Site Characterization for WVDEP**

POTESTA was retained by the WVDEP to complete a site characterization of the Fleming Sanitary Landfill. The site characterization included surveying, subsurface investigation including auger and rock core borings, leachate and surface water sampling, groundwater user survey including sampling of water wells, review of historical records, site reconnaissance, assessment of the sites' compliance with the Solid Waste Management Rules, and development of a conceptual closure plan.

### **Jackson County Sanitary Landfill Site Characterization for WVDEP**

POTESTA was retained by the WVDEP to complete a site characterization for the Jackson County Landfill. The site characterization included surveying, development of topographic mapping, subsurface investigation including auger and rock core borings, leachate and surface water sampling, groundwater user survey including sampling of water wells, review of historical records, site reconnaissance, assessment of the site's compliance with the Solid Waste Management Rules, and development of a conceptual closure plan.

### **Nine Cell Cap – Armour Creek Landfill for a Chemical Manufacturer**

POTESTA was retained by a chemical manufacturer to perform a site characterization assessment to evaluate environmental conditions at the landfill. The site characterization included surveying, monitoring well abandonment, leachate and surface water sampling, leachate

collection and discharge for treatment, review of historical records, site reconnaissance, leachate level monitoring, development of a conceptual closure plan and interface with the West Virginia Department of Environmental Protection Office of Water Resources (WVDEP-OWR).

### **Central Area Closure Plan and East Cell Berm Extension – Armour Creek Landfill for a Chemical Manufacturer**

POTESTA was retained by a chemical manufacturer to perform a site characterization assessment to evaluate environmental conditions at the landfill. The site characterization included surveying, monitoring well abandonment, leachate level monitoring, seep delineation, design of containment berm options, review of historical records, site reconnaissance, development of a detailed closure plan, and interface with the WVDEP-OWR.

### **Fort Martin CCB Landfill for Allegheny Energy Supply**

POTESTA was retained to complete a site assessment for a 100-acre landfill expansion. POTESTA's assessment included (1) excavation of test pits to quantify clay soils for construction of the landfill liner system, (2) laboratory analysis of soils for engineering properties, (3) soil and rock core borings to determine the geologic conditions present at the site, and (4) oversight of the drilling of new groundwater monitoring wells including development and sampling of eight new wells.

## **ATTACHMENT 12.C**

POTESTA is experienced in landfill closure construction inspection. POTESTA's construction monitoring and QA/QC services includes a final certification when requested by the client. POTESTA will prepare a summary of construction report including test data, daily field activity logs, and as-built record drawings along with the certification. Following are a few examples of our firm's experience.

### **Fleming Sanitary Landfill Construction Monitoring for WVDEP**

POTESTA was retained by the WVDEP to provide construction monitoring for the Fleming Sanitary Landfill Closure Project. POTESTA provided a technician to monitor construction on a full-time basis. POTESTA reviewed manufacturer/supplier submittals including shop drawings for pre-cast concrete items, QA/QC test results for geosynthetic materials, and specifications for other materials incorporated in construction. POTESTA's technician observed construction of 19 acres of a geosynthetic cap including daily trial seaming and testing, destructive sample testing, and non-destructive testing of the 40-mil LLDPE geomembrane.

The project also included the construction of a new sediment pond, glass-lined bolted steel leachate storage tanks, flow metering station, access roads, drainage channels, and culverts and leachate collection underdrains.

### **Wyoming County Landfill Closure Construction - Quality Assurance Monitoring for WVDEP**

POTESTA was retained by the WVDEP to provide construction quality assurance monitoring for the Wyoming County Landfill Closure project. POTESTA provided a technician to monitor construction on a full-time basis. POTESTA also reviewed contractor submittals for materials, quality control tests, and payment applications.

The project included regrading of the site; construction of a new sediment pond with principal and emergency spillways; construction of a 219,000-gallon glass-coated, bolted steel leachate storage tank with a secondary containment tank; construction of a leachate wet well, pump station, 3-inch force main, and gravity sewer line; construction of grout-filled fabric-lined ditches (over 2 miles in length); construction of leachate collection underdrains and construction of a Subtitle D cap.

### **Pocahontas County Landfill Closure of Cells 1-B and 2-A for Pocahontas County Solid Waste Authority**

See Attachment 12.A for description.

### **Nine Cell Cap – Armour Creek Landfill for a Chemical Manufacturer**

POTESTA was retained by a chemical manufacturer to provide construction quality assurance monitoring for the Nine Cell Cap project. POTESTA provided a technician to monitor construction on a full-time basis. POTESTA also reviewed contractor submittals for materials, quality control tests, and payment applications.

The project included reconstruction of a leachate collection underdrain line; regrading of the site; excavation of an anchor trench; installation of a 2.2-acre gas collection layer; installation of a 2.2-acre, 40-mil HDPE cap layer; installation of a 2.2-acre drainage layer; installation of a 2.2-acre soil cover layer; construction of a drainage diversion ditch and construction of an access road.

### **Central Area Closure Plan and East Cell Berm Extension – Armour Creek Landfill for a Chemical Manufacturer**

POTESTA was retained by a confidential chemical manufacturing company to provide construction quality assurance monitoring for the Central Area Closure Plan and East Cell Berm Extension project. POTESTA provided a technician to monitor construction on a full-time basis, and also reviewed contractor submittals for materials, quality control tests and payment applications.

The project included construction of a leachate monitoring system; regrading of the site; excavation of an anchor trench; installation of a 5-acre gas collection layer; installation of a 5-acre, 60-mil HDPE cap layer; installation of a 5-acre drainage layer; installation of a 5-acre

soil cover layer; installation of an 800-foot cut-off anchor trench; installation of an 800-foot soil containment berm; installation of drainage diversion ditches and construction of two access roads.

### **Construction Monitoring and Certification – Cell F-3a for Brook County Sanitary Landfill**

POTESTA was retained by Brooke County Sanitary Landfill to provide construction quality assurance for the installation of the geosynthetic components of the liner system for Cell F-3a at the Brook County Sanitary Landfill.

The liner system consisted of five geosynthetic layers placed over a prepared soil subgrade. POTESTA provided a full-time construction monitor to observe placement and witness quality control testing for the construction of the new cell. Cell F-3a was approximately 2.5 acres. POTESTA reviewed QA/QC test results provided by the manufacturer, observed and documented the arrangement of panels for the geosynthetic materials, observed placement and tying of two HDPE drainage net layers for leak detection and leachate collection, observed and documented daily trial seaming and testing for 80-mil HDPE geomembrane (primary liner) and 60-mil HDPE geomembrane (secondary liner), and observed and documented destructive and nondestructive seam testing of HDPE geomembrane panel.

### **Construction Monitoring and Certification – Cell F-3b for Brook County Sanitary Landfill**

POTESTA was retained by Brooke County Sanitary Landfill to provide construction quality assurance for the installation of the geosynthetic components of the liner system for Cell F-3b at the Brook County Sanitary Landfill.

The liner system consisted of five geosynthetic layers placed over a prepared soil subgrade. POTESTA provided a full-time construction monitor to observe placement and witness quality control testing for the construction of the new cell. Cell F-3b was approximately 1.8 acres. POTESTA reviewed QA/QC test results provided by the manufacturer, observed and documented the arrangement of panels for the geosynthetic materials, observed placement and tying of two HDPE drainage net layers for leak detection and leachate collection, observed and documented daily trial seaming and testing for 80-mil HDPE geomembrane (primary liner) and 60-mil HDPE geomembrane (secondary liner), and observed and documented destructive and nondestructive seam testing of HDPE geomembrane panel.

### **Construction Quality Assurance Monitoring – Fort Martin CCB Landfill Expansion**

POTESTA was retained to provide construction quality assurance monitoring and certification of construction services for the Phase I construction of the Fort Martin CCB Landfill. The schedule for construction was 60 weeks. POTESTA provided a full time soils and concrete inspector to monitor grading, complete compaction testing for fill construction and provide compaction testing for the clay layer of the liner system. The inspector also monitored concrete, grout, and flowable fill pours by testing slump, air content, and making test cylinders. POTESTA provided a geosynthetic liner components inspector to provide quality control monitoring of GCL, 60 mil HDPE, and drainage composite construction. Other technicians assisted as needed during peak

work times. The contractor's work force was as large as 50 persons on this \$10 million construction project. POTESTA's project manager completed interim certifications on each layer of the liner system as well as preparation of a final summary of construction report and final certification.

## **ATTACHMENT 12.D**

POTESTA's is experienced in aerial photography and development of contour mapping. POTESTA has the equipment and staff to produce contour mapping. See Attachment 12.B for project examples. For this project, we anticipate using our surveyors to set and establish ground control and GeoOne Mapping Services to produce aerial photography and mapping. We have successfully used GeoOne on prior projects. We believe aerial photography will be the preferred method of establishing topographic mapping. Our surveyors will complete field location work necessary.

## **ATTACHMENT 12.E**

POTESTA is experienced in evaluating groundwater contamination associated with landfills. POTESTA has qualified and experienced staff to handle the evaluation of groundwater contamination. See Attachment 12.B for project examples. We complete semi-annual groundwater monitoring at Pocahontas County Landfill along with statistical analysis and reporting of results to WVDEP. POTESTA was retained by Allegheny Energy Supply to both develop and sample eight new groundwater monitoring wells at the Fort Martin CCB Landfill expansion. POTESTA routinely samples groundwater monitoring wells on several industrial, voluntary remediation, and landfill sites in West Virginia.

For this project we anticipate using BioChem Testing as our contract laboratory for analysis of groundwater samples.

## **ATTACHMENT 12.F**

POTESTA is experienced in landfill closure cost estimating. See Attachment 12.A for project examples. POTESTA maintains a construction bid cost database for projects in West Virginia. We will also obtain historical LCAP bids to assist in preparation of accurate construction cost estimates for this project. POTESTA has prepared engineers construction cost estimates for WVDEP-LCAP projects, projects at Pocahontas County Landfill, projects in conjunction with the Fort Martin CCB Landfill, and chemical company industrial waste landfills.

# POTESTA & ASSOCIATES, INC.

## *Landfills and Solid Waste Management*

Public acceptance and available land for new landfills have decreased in recent years. This is evidenced by increased state and federal regulations requiring more public input and detailed technical investigations prior to regulatory approval for a new landfill or solid waste management facility.

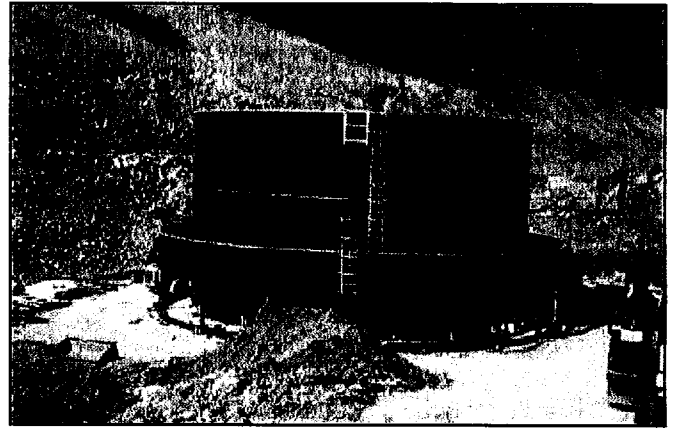
Potesta & Associates, Inc. (POTESTA) is knowledgeable of these challenges and stands ready to assist you in overcoming them. We possess the technical expertise and the regulatory liaison ability to cost-effectively and expediently permit your facility.

Our capability to provide you with complete turnkey, investigative, engineering, environmental and regulatory services within one firm prevents important aspects of your project from being overlooked, while producing a thorough and well organized product.

We have extensive experience with the design and permitting of a wide variety of landfills and other solid waste management facilities. Members of our staff have experience with landfills and solid waste facilities in West Virginia and many surrounding states. These facilities include municipal solid waste landfills and transfer stations; industrial waste landfills; hazardous waste landfills and other transfer, disposal and storage (TSD) facilities; coal combustion by-product (e.g., fly ash) landfills; coal refuse disposal areas; and construction demolition and debris landfills. We also have experience with bioremediation, resource recovery, composting, sludge handling and recycling facilities.

Our diverse and highly experienced staff is composed of professional civil, geotechnical, environmental, mining and chemical engineers; geologists; hydrogeologists; biologists; economists; CADD designers; surveyors; and field technicians.

Each project is evaluated prior to commencing work to determine the disciplines and qualifications that will be required. A team is then developed from our staff to meet your goals and needs. Our extensive solid waste management services are detailed below:



### INVESTIGATIVE SERVICES

- Comprehensive siting studies
- Feasibility and cost/benefit studies
- Geotechnical explorations
- Hydrogeologic investigations
- Water quality investigations
- Soil and groundwater contamination investigations
- Waste material/liner compatibility studies
- Remedial investigations and feasibility studies (RI/FS)
- Waste characterization studies
- Wetlands delineation and mitigation
- Perennial stream determination
- Environmental assessments
- Environmental monitoring
- Groundwater monitoring well installation, sampling and statistical analyses
- Groundwater usage surveys
- Surface water monitoring
- Methane monitoring

*(see next page)*



### POTESTA & ASSOCIATES, INC.

2300 MacCorkle Avenue, S.E. • Charleston, West Virginia 25304

Phone: (304) 342-1400 Fax: (304) 343-9031 • [www.potesta.com](http://www.potesta.com)

Regional Offices: Morgantown, West Virginia and Winchester, Virginia

## DESIGN AND PERMITTING SERVICES

- Permitting
  - Solid waste facilities
  - Hazardous waste facilities
  - Closures
  - Modifications
  - NPDES
- Regulatory Liaison Assistance
- Facility Design
  - Erosion and sedimentation control
  - Surface and subsurface drainage
  - Borrow area determination
  - Access roads
  - Liner systems (clay and synthetic)
  - Capping systems
  - Leachate management/treatment
  - Gas management
  - Closure and post-closure
- Remedial design
- Construction drawings and specifications
- QA/QC manuals

## CONSTRUCTION SERVICES

- Health and safety plans
- Construction monitoring
- Hazardous waste management
- Implementation of remediation plans

## OPERATIONAL CONSULTING

- Site management
- Recycling programs
- By-product utilization/marketing studies
- Hazardous waste screening programs
- Health and safety programs

POTESTA's diverse staff has wide-ranging experience with solid waste facilities that allows us to efficiently look at alternatives and assist you in selecting a cost-effective solution for your situation.

If you are contemplating construction of a new landfill, expansion of your existing landfill, closure of a cell, have a potential solid waste problem, or are turning your landfill into an integrated solid waste management facility, please allow us the opportunity to meet with you.



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# POTESTA & ASSOCIATES, INC.

## *Construction Monitoring*

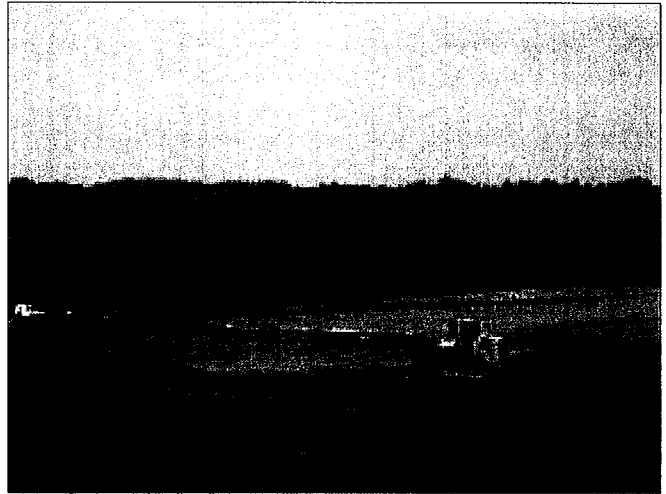
Potesta & Associates, Inc. (POTESTA) provides construction monitoring and construction management services to assist clients in achieving regulatory and contractual compliance; to document that contractor activities are in compliance with design requirements; and to serve as an extension of clients' 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.



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During the transaction of business, whether involving property transfers or the completion of environmental audits, it may be necessary to perform environmental site assessment (ESA) activities to identify actual and potential environmental liabilities and perform remediation to mitigate these liabilities. Potesta & Associates, Inc. (POTESTA) professionals have performed numerous Phase I and Phase II site assessments designed to assist clients with property assessments and are experienced with many different remediation technologies. These activities are completed in accordance with applicable environmental regulations, American Society for Testing and Materials (ASTM) guidelines and other accepted industry practices.

### **PHASE I: INITIAL SITE EVALUATION**

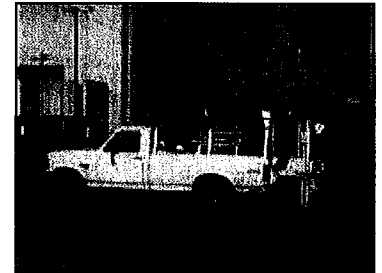
The All Appropriate Inquiry (AAI) Rule (effective November 1, 2006) requires that Phase I ESAs be performed according to guidance outlined by the U.S. Environmental Protection Agency (USEPA) for the user to potentially qualify for the innocent landowner defense. POTESTA professionals conduct Phase I site assessments in accordance with ASTM Standard Number E 1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", the standard compliant with the AAI Rule. Phase I assessments generally involve only non-intrusive methods such as deed and tax searches, review of Sanborn maps, site visits, review of regulatory files for the site and surrounding properties, and interviews with individuals knowledgeable of site history and activities.

### **PHASE II: SITE INVESTIGATION WITH SAMPLING**

Phase II site assessments involve sampling and are generally conducted when potential contaminants or

sources of contaminants have been identified during the Phase I process. Samples may be collected from structural materials (such as asbestos sampling) containers (such as drums, tanks and transformers), soil, surface water or groundwater. A Phase II site assessment may involve placement of groundwater monitoring wells.

Soil samples are typically collected with a hand auger, rotary drill rig and split spoon sampler or a direct-push sampling rig. Groundwater samples may be collected from direct-push sample



borings, temporary piezometers, or groundwater monitoring wells. Established sampling methods, preservation and decontamination procedures are strictly adhered to during sampling events. Samples are submitted to a qualified laboratory and analyzed for potential contaminants identified during the Phase I process or field observations. POTESTA professionals review the analytical results to determine if additional site assessment is necessary. Data generated during the Phase I and Phase II assessment processes are utilized to establish the nature and extent of environmental liabilities.

Phase I and Phase II activities may be combined to increase efficiency and reduce overall cost.

### **REMEDIATION**

The presence of regulated contaminants exceeding regulatory limits may require the development of a remedial action plan. Our staff utilizes data generated during the Phase I and Phase II activities to develop cost-effective remedial alternatives based on site-specific criteria. Interaction with regulatory agencies is often vital to the success of remedial activities.



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# POTESTA & ASSOCIATES, INC.

## *Civil Engineering and Design*

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



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# POTESTA & ASSOCIATES, INC.

## *Surveying and Mapping*

Our surveyors are experienced in many aspects of surveying such as topographic mapping, boundary surveys (rural/farms, city lots, and subdivisions) and ALTA surveys, control surveys, flood certificate surveys, well location surveys, and 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 several eastern states. 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, and HP 48 data collectors with SMI software. Reduction and design software used includes AutoCAD, Softdesk Civil/Survey design, Autodesk Land Design, Microstation, and InRoads design software.

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 and existing base stations are readily accessible. 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.



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*Project Abstract*

# FLEMING SANITARY LANDFILL CLOSURE PLAN

**West Virginia Department of Environmental Protection**

*Sissonville, West Virginia*



*Construction of the cap system was completed in phases. A buttress was constructed over the face of the landfill to flatten slopes to 4 horizontal to 1 vertical to improve stability of the cap.*

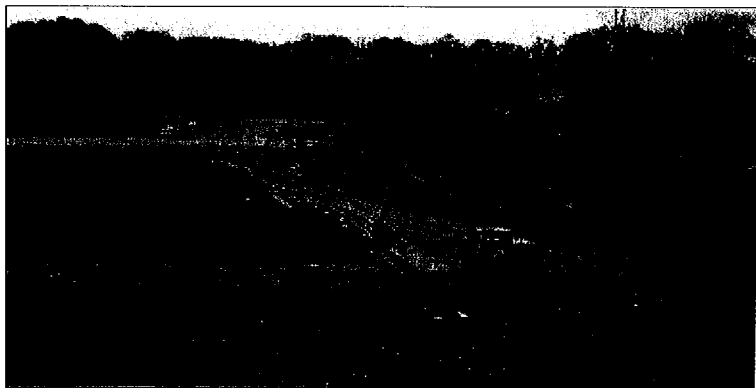
Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection, 1356 Hansford Street, Charleston, West Virginia 25301, (304) 558-6350, to develop bid and construction documents for the Fleming Sanitary Landfill closure project located in Pocatalico, West Virginia. POTESTA developed technical specifications, drawings, and related documents for the closure of the 19-acre municipal solid waste landfill.

bolted steel leachate storage tank (primary and secondary tanks); leachate flow metering station; leachate collection drains, piping, and related valves; a new sediment pond including principal and emergency spillways; access roads; regrading of the landfill surface and construction of a landfill toe buttress to improve slope stability of the cap; closure of an existing leachate collection pond; construction of a geosynthetic cap system including gas management geocomposite, 40-mil LLDPE geomembrane, drainage geocomposite, and 2-foot protective soil cover; passive gas venting system; and runoff/run-on control channels and culverts.

POTESTA prepared the closure plan for the landfill including construction of a glass-lined,

POTESTA also prepared a conceptual plan with cost estimates and analysis of pay-back period for construction of a sewer system to convey leachate from the Fleming Sanitary Landfill to the Charleston Sanitary Board's sewer system.

POTESTA completed permit applications to allow construction of the project to proceed.



*The project included construction of a 19-acre geosynthetic cap system.*

**POTESTA & ASSOCIATES, INC.**

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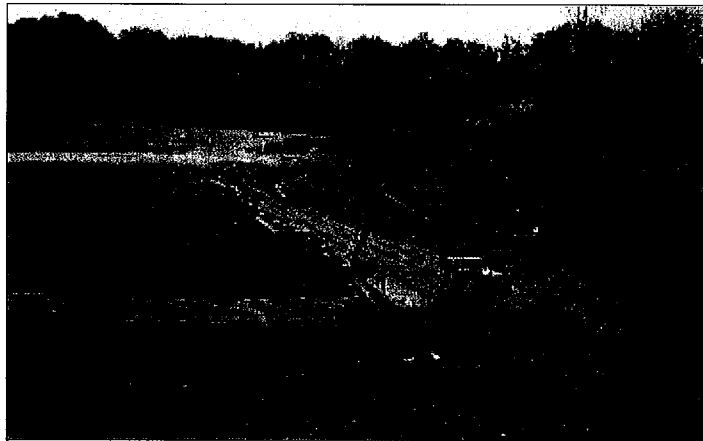
*Project Abstract*

# FLEMING SANITARY LANDFILL CONSTRUCTION MONITORING

West Virginia Department of Environmental Protection

*Sissonville, West Virginia*

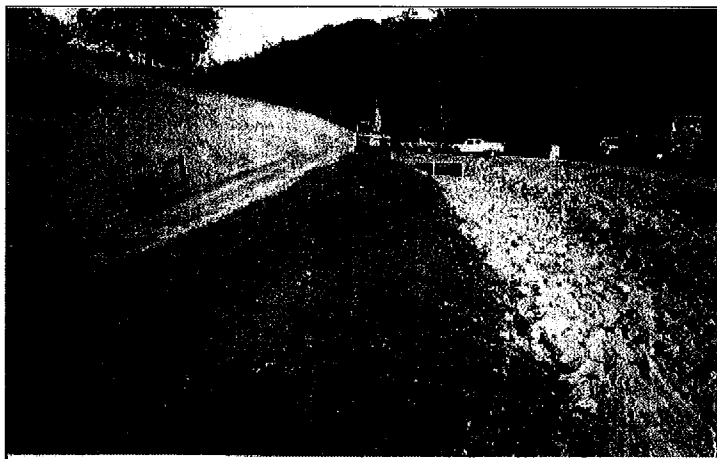
Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Division of Environmental Protection (WVDEP), 1356 Hansford Street, Charleston, West Virginia 25301, (304) 558-6350, to provide construction monitoring for the Fleming Sanitary Landfill Closure Project. POTESTA provided a technician to monitor construction on a full-time basis. POTESTA reviewed manufacturer/supplier submittals including shop drawings for pre-cast



*The project included construction of 19 acres of a geosynthetic cap system.*

concrete items, quality assurance/quality control test results for geosynthetic materials, and specifications for other materials incorporated into construction. POTESTA's technician observed

construction of 19 acres of a geosynthetic cap including daily trial seaming and testing, destructive sample testing, and non-destructive testing of the 40-mil LLDPE geomembrane.



*The emergency spillway from the sediment pond drains to a riprap-lined channel and through a box culvert.*

The project also included construction of a new sediment pond, glass-lined bolted steel leachate storage tanks, flow metering station, access roads, drainage channels and culverts, and leachate collection underdrains.

**POTESTA & ASSOCIATES, INC.**

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*Project Abstract*

# FLEMING SANITARY LANDFILL SITE CHARACTERIZATION

## West Virginia Department of Environmental Protection

### *Sissonville, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Division of Environmental Protection (WVDEP) to complete a site characterization for the Fleming Sanitary Landfill. The site characterization included surveying; subsurface investigation including auger and rock core borings; leachate and surface water sampling; groundwater user survey including sampling of water wells; review of historical records; site reconnaissance; assessment of the site's compliance with the Solid Waste Management Rules; and development of a conceptual closure plan.



*Portions of the landfill were steeply sloped which presented a challenge in designing the geosynthetic cap system.*

POTESTA completed surveying to edit existing historical topographic mapping to reflect earthwork completed after the mapping was developed. POTESTA also located test pits, borings, leachate seeps, existing structures, and the property boundaries of the landfill property.

Water sampling included establishment of upstream and downstream monitoring points, sample acquisition, and analysis to evaluate the landfill's impact upon receiving streams. POTESTA also obtained and analyzed leachate samples from numerous locations in order to evaluate and select appropriate leachate management strategies.



*Prior to capping, the landfill area was poorly vegetated and experienced much erosion.*

POTESTA performed a groundwater user survey for residents utilizing private water supplies within a 1-mile radius of the landfill. POTESTA selected ten representative residents to include in the survey, conducted interviews with these ten residents, sampled wells/springs, analyzed results, and prepared a report to assess impacts of the landfill on the private water supplies.

POTESTA excavated test pits on and around the landfill to determine soil cover thickness, to locate the edge of solid waste, and to evaluate potential soil borrow areas. Soil borrow area samples were tested for Standard Proctor, Atterberg limits, grain size, permeability, pH, and nutrients.

POTESTA completed a subsurface investigation including auger borings and rock coring to evaluate subsurface conditions at the landfill. POTESTA developed a conceptual closure plan for the site including upgrades of the existing sediment ponds, run-on and run-off control channels, leachate collection underdrains, proposed 200,000-gallon leachate storage tank, access roads, final cap and cover, and a sewer line to convey leachate to the Guthrie Public Service District wastewater treatment system.

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*Project Abstract*

# **JACKSON COUNTY SANITARY LANDFILL CLOSURE PLAN**

## **West Virginia Department of Environmental Protection**

### *Jackson County, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Department of Environmental Protection, 1356 Hansford Street, Charleston, West Virginia 25301, (304) 558-6350, to develop bid and construction documents for the Jackson County Sanitary Landfill closure project. POTESTA developed technical specifications, drawings, and related documents for the closure of the 21-acre municipal solid waste landfill.

POTESTA prepared the closure plan for the landfill including a bolted stainless steel leachate storage tank (primary and secondary tanks); leachate pump station and related high density polyethylene piping and valves; leachate flow metering station with controls and data recorder; leachate collection underdrains; an enlarged sediment pond with principal and emergency spillways; access roadways; regrading of the existing landfill surface to result in the required maximum and minimum slopes; closure of an existing leachate collection pond; construction of a geosynthetic cap system including gas management geocomposite, 40-mil LLDPE geomembrane, drainage geocomposite, and a 2-foot protective soil cover; passive gas venting system; and run-on/runoff control channels.

POTESTA also prepared plans and specifications for a sewer line to convey flow from the landfill to the City of Ripley's sanitary sewer system.

POTESTA prepared the necessary permit applications to allow the project to proceed, and prepared an engineer's construction cost estimate for the project.

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*Project Abstract*

# **JACKSON COUNTY SANITARY LANDFILL SITE CHARACTERIZATION**

## **West Virginia Department of Environmental Protection**

### *Jackson County, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Division of Environmental Protection (WVDEP), 1356 Hansford Street, Charleston, West Virginia 25301, (304) 558-6350, to complete a site characterization for the Jackson County Landfill. The site characterization included surveying; development of topographic mapping; subsurface investigation including auger and rock core borings; leachate and surface water sampling; groundwater user survey including sampling of water wells; review of historical records; site reconnaissance; assessment of the site's compliance with the Solid Waste Management Rules; and development of a conceptual closure plan.

POTESTA provided surveying to establish ground control for aerial mapping, and to locate test pits, borings, leachate seeps, and existing features. POTESTA also located property boundaries since some problem areas were in close proximity to the property line. POTESTA developed topographic mapping from aerial photography for approximately 110 acres.

Water sampling included surface water samples to evaluate the landfill's impact on the receiving stream. POTESTA also obtained and analyzed samples of leachate in order to evaluate leachate treatment options and requirements.

POTESTA completed a groundwater user survey for residents utilizing private water supplies within 1-mile of the landfill. POTESTA selected ten representative residents to include in the survey, conducted interviews with these ten residents, sampled wells/springs, analyzed results, and prepared a report to assess impacts of the landfill on the private water supplies.

POTESTA excavated test pits on and around the landfill to determine soil cover thickness, to locate the edge of solid waste, and to evaluate potential soil borrow areas. Soil borrow area samples were tested for Standard Proctor, Atterberg limits, grain size, permeability, pH, and nutrients. POTESTA also completed a subsurface investigation including auger borings and rock coring to evaluate subsurface conditions at the landfill.

POTESTA developed a conceptual closure plan for the site, including upgrades of the existing sediment ponds, run-on and run-off control channels, leachate collection underdrains, proposed leachate storage tank, access roads, final cap and cover, and a sewer line to convey leachate to the Ripley wastewater treatment system.

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*Project Abstract*

# **POCAHONTAS COUNTY LANDFILL CELL 3-A EXPANSION**

## **Pocahontas County Solid Waste Authority**

*Dunmore, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by the Pocahontas County Solid Waste Authority (PCSWA) to prepare construction documents and provide construction monitoring for construction of a new 1.25-acre solid waste cell at the PCSWA's landfill near Dunmore, West Virginia. To complete this project, POTESTA designed the landfill expansion for Cell 3-A, including:

- Design of subgrade elevations of the liner system to balance available airspace versus excavation to obtain the required base slope and berms along the edges of the liner;
- Design of leachate detection and collection pipes and aggregate bedding;
- Design of the leachate collection system utilizing geosynthetic layers where possible to result in savings.

POTESTA also prepared construction/bid documents and assisted PCSWA in the bidding, bid evaluation, and contract award/administration. POTESTA prepared instructions to bidders, construction drawings, specifications, and contractor's bid form. POTESTA attended the mandatory on-site pre-bid meeting and provided an overview of the project and responded to questions raised by the bidders.

POTESTA evaluated bids and made recommendations to PCSWA on execution of a construction contract. POTESTA provided full-time construction observation during earthwork and construction of the subbase, leak detection zone, 24-inch clay liner, 60-mil HDPE geomembrane, leachate collection system, and protective cover layers. POTESTA prepared certifications for each layer required by the WV Department of Environmental Protection.



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*Project Abstract*

# POCAHONTAS COUNTY LANDFILL CLOSURE OF CELL 1-B

## Pocahontas County Solid Waste Authority

### *Dunmore, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by the Pocahontas County Solid Waste Authority (PCSWA) to prepare construction documents and provide construction monitoring for closure of an approximate 2-acre municipal solid waste cell at the PCSWA's landfill near Dunmore, West Virginia. To complete this project, POTESTA designed the closure plan for Cell 1-B and prepared construction documents (i.e., drawings and specifications) including the following closure items.



*Cell 1-B slope covered with geosynthetic cap prior to placing the final soil cover layer.*

1. Regrading existing slopes to result in a landfill surface of three horizontal to one vertical or flatter to allow for subsequent capping.
2. Preparation of the existing landfill surface to receive the cap.
3. Construction of leachate seep collector drains on regraded areas on the slope.
4. Construction of the final cap system including a geonet composite gas management layer, flexible membrane cap, geonet composite drainage layer, 2-foot protective soil cover layer, and passive gas vents.
5. Development, operation, and reclamation of an on-site soil borrow area for soil required for construction of the cap.
6. Revegetation of disturbed areas.



*A bulldozer was used to place the 2-foot thick final soil cover layer working from the bottom of the slope to the top.*

Construction was completed with POTESTA providing construction monitoring and a certification of construction.

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