The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 1

List View

General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 1257392
Procurement Type: Central Purchase Order
Vendor ID: 000000160372
Legal Name: GAI CONSULTANTS INC
Alias/DBA:
Total Bid: $0.00
Response Date: 08/29/2023
Response Time: 8:37
Responded By User ID: GAIConsultants
First Name: Charles
Last Name: Straley
Email: c.straley@gaiconsultants.cor
Phone: 681-245-8866

SO Doc Code: CEOI
SO Dept: 0313
SO Doc ID: DEP2400000006
Published Date: 8/9/23
Close Date: 8/29/23
Close Time: 13:30
Status: Closed
Solicitation Description: EOI - 2023 AML Contract N2
Total of Header Attachments: 1
Total of All Attachments: 1

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

State of West Virginia
Solicitation Response

Proc Folder:	1257392
Solicitation Description:	EOI - 2023 AML Contract N2
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2023-08-29 13:30	SR 0313 ESR08292300000001016	1

VENDOR

000000160372
GAI CONSULTANTS INC

Solicitation Number: CEOI 0313 DEP2400000006

Total Bid: 0 **Response Date:** 2023-08-29 **Response Time:** 08:37:55

Comments: Expression of Interest for WVDEP 2023 AML Contract N2

FOR INFORMATION CONTACT THE BUYER
Joseph E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

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

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Bridgeport (Tomes) Landslide				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Bridgeport (Tomes) Landslide

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Burl Gould Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Burl Gould Highwall

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Burl Gould Landslides				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Burl Gould Landslides

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Fairmont (Windsor Dr) Subsidence & Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Fairmont (Windsor Dr) Subsidence & Highwall

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Falls Run (Abruzzino) DH & DS				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Falls Run (Abruzzino) DH & DS

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Glade Run Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Glade Run Highwall

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
7	Glade Run Landslides				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Glade Run Landslides

gai consultants®

Bridgeport Office
107A Cambridge Place
Bridgeport, West Virginia 26330
T. 304.808.6680
F. 304.808.6684

August 29, 2023

Joseph E. Hager III
Senior Buyer, State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, West Virginia 25305

Expression of Interest
2023 AML Contract North 2
CEOI 0313 DEP2400000006

GAI Project #R230820.00

Dear Mr. Hager:

GAI Consultants, Inc. (GAI) welcomes the opportunity to provide our Expression of Interest (EOI) to the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML) for the 2023 AML Contract 2 Projects North (Group of Projects) located in Harrison and Marion Counties, West Virginia. Our EOI addresses the issues indicated in the State's Solicitation No. CEOI 0313 DEP2400000006, dated August 9, 2023. GAI believes our team is qualified to meet the needs of this Group of Projects based on the following considerations:

- **Key Project Leadership:** GAI's proposed **Project Manager, Jason Gandee**, has over 16 years of project management and engineering experience. He has worked on over 25 reclamation projects for the WVDEP-DLR-AML, where he was responsible for project management, site reconnaissance, monitoring subsurface exploration drilling, preliminary and final design drawings, technical specifications, engineer's cost estimates, and conducting pre-bid and pre-construction meetings with contractors. Mr. Gandee is currently the Project Manager for the Belle (Sneed) Drainage Project in Kanawha County for the WVDEP-DLR-AML. **Project Advisor, Charles Straley, PE, PLS, MS**, is a licensed Professional Engineer (PE) and Professional Licensed Surveyor (PLS) in West Virginia with over 37 years of experience specializing in project management and geotechnical engineering services for over 95 WVDEP mine reclamation projects throughout West Virginia.
- **Expertise in Acid Mine Drainage (AMD) Design Projects:** Since 1958, GAI has established itself as an engineering and environmental consulting firm providing a range of services and specializing in foundation and soil mechanics engineering. Our AMD experience includes design of passive drainage treatment systems, drainage conveyances, drainage channels, drainage structures, and drainage control measures; installation of mine drainage structures; diversion channel construction; mine portal reclamation; erosion and sediment control; landslide remediation; stream and wetlands restoration; highwall design; access road construction; permitting services; mapping and surveying; and revegetation.
- **Expertise in National Environmental Policy Act (NEPA) Projects:** GAI's Cultural Resources Group Manager, Benjamin Resnick, RPA, MA, MBA, has served as the Project Manager for numerous NEPA Compliance projects located in West Virginia, and is the Project Manager for the West Virginia Department of Transportation, Division of Highways (WVDOH) On-Call Agreements for NEPA and Cultural Resources projects. GAI's NEPA compliance services include but are not limited to: preparation of programmatic agreements, Categorical Exclusion Evaluations (CEEs), Environmental Assessments (EAs), Environmental Impact Statements (EISs), reevaluations of NEPA documents, Section 4(f) analysis, Section 6(f) analysis, Section 106, Section 7 of the Endangered Species Act, noise and air quality analysis, and related surveys and documents.
- **Local Presence:** GAI has two offices located within the State of West Virginia, including Charleston and Bridgeport. **GAI's Charleston Office is located within a 10-minute drive of WVDEP-DLR-AML's Headquarters, located in Downtown Charleston, West Virginia.** GAI's Bridgeport Office is in the same complex as the WVDEP-DLR-AML's Bridgeport Office. We are familiar with the region and have a thorough understanding of AML projects. GAI's Charleston Office has provided the State with quality engineering services for the abatement of problems arising from AML since opening in 1985.

We look forward to the opportunity to work with the State of West Virginia and the WVDEP-DLR-AML on this important Group of Projects. Should you have any questions or would like to speak with us about our EOI or services, please feel free to contact Project Manager, Jason Gandee, at 681.245.6484 or via email at J.Gandee@gaiconsultants.com.

Sincerely,
GAI Consultants, Inc.

Jason G. Gandee
Digitally signed by Jason G. Gandee
DN: E=J.Gandee@gaiconsultants.com, CN=Jason G. Gandee
Date: 2023.08.28 10:11:24-04'00'

Jason Gandee
Project Manager/Engineering Manager/Associate

Charles F. Straley
Digitally signed by Charles F. Straley
DN: E=c.straley@gaiconsultants.com, CN=Charles F. Straley
Date: 2023.08.28 09:36:57-04'00'

Charles F. Straley, PE, PLS, MS
Project Advisor/Senior Engineering Manager/Associate

JG:CFS/mdw

Attachment: Expression of Interest - 2023 AML Contract North 2

EXPRESSION OF INTEREST

2023 AML Contract N2

Solicitation Number: CEOI 0313 DEP2400000006

August 29, 2023

GAI Project No. R230820.00

Prepared for:
State of West Virginia
Department of Administration,
Purchasing Division
2019 Washington Street East
Charleston, West Virginia 25305-0130
Attn: Joseph E. Hager III, Senior Buyer

Prepared by:
GAI Consultants, Inc.
107A Cambridge Place
Bridgeport, West Virginia 26330
304.808.6680 | gaiconsultants.com

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Figures

Appendices

1.0 COMPANY OVERVIEW

GAI offers a qualified team to provide services to the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML). Founded in 1983, GAI now has over 800 employees in 24 office locations, spanning across 12 states throughout the Southern, Northeastern, Mid-Atlantic, and Midwestern, U.S., including offices in Charleston and Bridgeport, West Virginia, where we currently have 50 personnel working out of these two offices.

GAI has a long history of working on mining-related projects throughout West Virginia and the Northeastern U.S. GAI has provided mining engineering and environmental consulting services to the West Virginia Department of Environmental Protection (WVDEP) for over 100 Abandoned Mine Land (AML) projects since 1985 and has also supported similar projects in Pennsylvania, Ohio, Maryland, and West Virginia. We are familiar with West Virginia and the topography and features of the region and have comprehensive knowledge of the regulatory approval process for various types of projects. Our personnel know West Virginia's geologic and mineral environment, as well as the problems posed by past mining activities and practical methods to alleviate them. We have worked for many years with public and private sector clients to provide economic, effective, and innovative solutions to these problems. GAI's experience with issues involving AML include, but are not limited to:

- AML reclamation studies
- Mine subsidence issues, evaluations, and mine stabilization design
- Mine portal reclamation and mine shaft backfill remediation
- Burning coal refuse piles, coal seams, and underground mine fire investigation and abatement
- Stream restoration and wetlands replacement and development
- Hydrologic and hydraulic (H&H) design of erosion and sediment control
- Landslide investigations and repair
- Environmental liability assessments
- Soil analysis and revegetation plans
- Water quality surveys, feasibility reports, and water supply system designs
- Permitting for deep and surface mine applications
- Geophysical and Geotechnical investigations
- Underground ventilation studies
- Economic studies and risk assessments
- Risk assessments
- Abandoned mine drainage (AMD) remediation
- Design of active and passive AMD treatment facilities
- Evaluation, operation, monitoring, maintenance, and/or rehabilitation of existing passive and active AMD treatment systems
- Construction monitoring

Additionally, GAI is experienced in the design of wetlands for passive treatment of AMD. We completed the design of an AMD treatment plant in Pennsylvania, which included innovative technologies for active treatment systems. And being nationally known in coal combustion by-product utilization, GAI has worked with several electric utility clients in developing projects that involve the beneficial use of coal ash in the reclamation of abandoned mine lands. Further examples of our work are presented throughout this Expression of Interest.

COMPANY WORKLOAD AND STAFF AVAILABILITY

GAI is a multi-office firm with numerous active projects at any time. The majority of GAI's senior and supervisory staff have been employed with the firm from 10 to 25+ years, providing a stable staff and work environment. Because we maintain a large staff, we can respond to our clients' needs quickly. It is standard procedure for the assigned Project Manager to oversee a project from inception to completion, from assigning personnel to writing and submitting required reports. Our available staffing will accommodate the anticipated workload for this Group of Projects.

2.0 KEY PERSONNEL

Our proposed Team is particularly well-suited for this Group of Projects due to our AML experience and expertise. GAI's key personnel for this Group of Projects specialize in mine reclamation projects. Please see **Figure 1** for GAI's proposed Project Organizational Chart. Resumes of GAI's Project Management and Discipline Leads are located in **Appendix B**.

FIGURE 1 - PROJECT ORGANIZATIONAL CHART

Notes

- ● West Virginia Office Staff and Subcontractors
- ● Woman-Owned Small Business
- * Designated Discipline Lead
- + Resume provided

TEAM LEADERS

Jason Gandee - Project Manager

T. 681.245.6484 | E. j.gandee@gaiconsultants.com

Mr. Gandee is an Engineering Manager and our proposed Project Manager for this Group of Projects. **He has 16 years of experience specializing in civil engineering design and has been the project engineer for over 25 reclamation projects for the WVDEP, Office of Abandoned Mine Lands.** He is currently the Project Manager for the Belle (Sneed) Drainage Project for the WVDEP-DLR-AML. Mr. Gandee's responsibilities have included project management, site reconnaissance to determine the scopes of projects, subsurface monitoring and exploration drilling, preliminary and final design drawings, technical specifications, engineer's cost estimates, and conducting pre-bid and pre-construction meetings with contractors. He also has regulatory agency permitting experience for AML projects, including National Pollutant Discharge Elimination System (NPDES) construction stormwater permits and United States Army Corps of Engineers (USACE) regional permits. His experience with special reclamation projects includes developing construction plans to eliminate highwalls, providing H&H design to manage stormwater on sites, designing ponds for active treatment, and providing design to regrade refuse piles. Mr. Gandee will serve the WVDEP's interest by coordinating and managing fiscal and personnel aspects of the Group of Projects. He will also coordinate public participation tasks, talking to Project stakeholders and answering general comments from the public. Mr. Gandee has a thorough understanding of WVDEP guidelines, specifications, and project expectations. He received his BS in Civil Engineering Technology from West Virginia University Institute of Technology.

Charles Straley, PE, PLS, MS - Project Advisor

Mr. Straley is a Senior Engineering Manager and will serve as our proposed Project Advisor for this Contract. **Mr. Straley has managed and participated in the design and development of reclamation plans and feasibility studies for over 95 WVDEP mine reclamation projects.** He has over 37 years of engineering experience and is a licensed Professional Engineer (PE) in West Virginia and six other states; and a Professional Licensed Surveyor (PLS) in West Virginia. Mr. Straley specializes in geotechnical engineering, including aspects of drainage design, landslide investigations, subsurface exploration, foundation and embankment design, slope stability, material and construction specifications, laboratory testing, and construction administration, management, and monitoring. His management experience, combined with his geotechnical engineering expertise, will aid in the successful completion of this Group of Projects in support of the WVDEP's schedule and budgets. Mr. Straley is a native of West Virginia and holds an MS in Geotechnical Engineering and a BS in Civil Engineering from The University of Akron.

KEY TECHNICAL PERSONNEL

Shane Fisher, PE - Civil Engineering Lead

Mr. Fisher is an Assistant Engineering Manager and has 18 years of civil engineering experience. He is a licensed PE in West Virginia and nine other states. Mr. Fisher's AML experience includes performing design and cost estimating for AML and industrial wastewater projects. He specializes in environmental permitting for numerous federal, state, and local regulatory agencies. He manages erosion and sediment control, and construction stormwater and roadway permitting projects for GAI. His experience includes designing and analyzing drainage systems, roadways, bridge structures, and sanitary and industrial water and wastewater systems. His recent experience includes managing stream restoration and wetland mitigation projects in West Virginia and Wisconsin. He also has experience meeting Federal Emergency Management Act (FEMA) requirements, including flood mapping, flood compliance, and construction monitoring for disaster-related funds. Mr. Fisher received his BS in Civil Engineering Technology from Fairmont State University.

KEY TECHNICAL PERSONNEL

Donald Splitstone, PE - Geotechnical Engineering Lead

Mr. Splitstone is a Senior Engineering Manager and has over 27 years of experience specializing in design and construction of geotechnical engineering projects, including developing geotechnical investigations, treatment schemes, details, plans, and specifications for various design projects. He is a licensed PE in West Virginia and three other states. His experience also includes shallow and deep (driven and drilled) foundations, various types of retaining walls and support of excavation, embankment and cut-slope stability, landslide investigations and remediations, karst conditions, and flexible and rigid structural pavement. He has experience with design-bid-build, design-build, and accelerated construction project delivery mechanisms. He holds a BS in Civil and Environmental Engineering from the University of Pittsburgh, and a BS in Engineering Physics from Miami University in Oxford, Ohio.

Nolan Sollenberger - Geological Lead

Mr. Sollenberger is a Project Geological Specialist with over six years of experience specializing in environmental consulting with experience in groundwater sampling, soil logging and sampling, monitoring well construction and installation, sinkhole investigations, spill responses, vapor monitoring, environmental site assessments, and has assisted with drilling operations. He has also authored quarterly Remedial Action Progress and Completion Reports, Site Characterization Reports, Remedial Action Plan Reports, and Act 2 Reports. Mr. Sollenberger is currently providing geotechnical investigations and analyses for the Belle (Sneed) Drainage Project for the WVDEP-DLR-AML. He received his BS in Geology from West Virginia University.

Mary Beth Berkes, PE, MS - H&H Analysis/Stream & Wetland Restoration Lead

Ms. Berkes is an Assistant Civil Technical Leader and serves as GAI's Engineering Lead for Stream and Wetland Mitigation Design. She has over 14 years of design experience, specializing in H&H analyses and modeling, inundation studies and investigations, Natural Channel Design (NCD), stream restoration and bank stabilization for protection of utilities, property and resources, geomorphic surveys, and field assessments. Ms. Berkes is a licensed PE in six states, including West Virginia. She has completed the Rosgen Levels I through IV courses and her training resume also includes formal courses relating to multi-dimensional hydraulic modeling for stream restoration, advanced HEC-RAS modeling and scour analysis, and H&H permitting and procedures. Her design experience specific to stream and wetland mitigation includes over three miles of stream restoration design for two mitigation sites in West Virginia; restoration and stabilization design for headwater stream restoration projects across West Virginia; stream relocation within a FEMA floodway; significant experience involving bank stabilization on large rivers and small streams through bio-engineering methods, hard armoring, or a hybrid approach; and design and hydrologic assessments for wetland mitigation sites. Ms. Berkes received her MS in Civil Engineering from Oregon State University, and a BS in Civil Engineering from the University of Pittsburgh.

Alex Cook - Environmental Studies Lead

Mr. Cook is a Senior Project Environmental Specialist with 16 years of experience specializing in environmental and biological surveys and field assessments, including wetland delineations, jurisdictional stream determinations, vegetation surveys, benthic and water quality sampling, fish and herpetology studies, and threatened and endangered species surveys. He is familiar with current West Virginia and federal regulations, including the Section 401 and 404 permitting process [Clean Water Act (CWA)] and Section 7 consultation [Endangered Species Act (ESA)]. Mr. Cook also has experience writing technical reports for National Environmental Policy Act (NEPA) projects. His experience includes working with the WVDEP, Division of Water and Waste Management, as the Environmental Lead for a Stream Restoration Project in West Virginia. He also has implemented and performed bi-annual Narrative Water Quality Assessments (NPDES compliance) for a proposed surface mine project that included habitat assessments, water quality sampling, fish surveys, benthic macroinvertebrate surveys, and geomorphic and sediment transport studies following WVDEP and federal protocols. Mr. Cook received his BS in Biology from West Virginia State University.

KEY TECHNICAL PERSONNEL

Adam Mann, MS - Endangered Species Biologist Lead

Mr. Mann an Environmental Manager with over 25 years of experience specializing in endangered species studies. Mr. Mann's experience includes working with a variety of aquatic and terrestrial fauna such as reptiles, birds, mammals, fish, and freshwater mussels; however, he is most noted for his work with endangered Indiana and Northern long-eared bats. Mr. Mann is a federally-permitted bat biologist and a state permitted bat biologist and approved bat surveyor in West Virginia. He will coordinate endangered species investigations for the WVDEP, including consultation with the West Virginia Division of Natural Resources (WVDNR) and the United States Fish and Wildlife Service (USFWS), performance and/or supervision of biological survey teams, and production of necessary reporting or follow-up documentation. Mr. Mann received his MS in Biology from Marshall University, and his BS in Biology from Thomas More College.

Benjamin Resnick, RPA, MA, MBA - Cultural Resources Group Manager

Mr. Resnick is an Assistant Vice President and GAI's Cultural Resources Group Manager with over 36 years of experience conducting and managing Section 106 (NHPA) projects. He has over 25 years of experience in the management of state and federal open-end contracts and is Register of Professional Archaeologists (RPA) certified. Areas of specialization include management of open-end agreements focusing on schedules and cost controls, and 18th and 19th-century urban and rural site investigations, GIS applications in archaeology, Section 106 (NHPA), NEPA, and public education and involvement. He has managed numerous Cultural Resources and NEPA projects conducted as part of the WVDOH Statewide On-Call Agreements. He received his MBA from Point Park University, his MA in Anthropology/Public Service Archaeology from the University of South Carolina, and his BA in Anthropology from the University of Maryland.

Michael Holbert, PE - Roadway and Traffic Engineering Lead

Mr. Holbert is a Senior Engineering Manager with over 25 years of experience in roadway and transportation engineering, including developing plans, specifications, and cost estimates; design studies; and preliminary and final engineering for numerous roadways and bridges. He is a licensed Engineer in West Virginia, Pennsylvania, and Maryland. Mr. Holbert is a licensed Engineer in West Virginia and is familiar with local, state, and federal regulatory processes for roadway projects. His project management experience, combined with his 25 years of civil engineering and roadway and transportation engineering expertise, will aid in the successful completion of these projects in a timely, technically sound, and cost-efficient manner. Mr. Holbert was recently the Project Manager for the City of Morgantown's White Avenue Slip Project. Prior to working with GAI, Mr. Holbert worked for the WVDOH. He holds a BS in Civil Engineering from West Virginia University, where he graduated summa cum laude.

Sean Uber, MBA - Survey Lead

Mr. Uber is a Senior Survey Manager specializing in as-built and routing surveys, computer aided drafting, and permitting. He has served the energy industry in surveying capacities for 20+ years and has 15+ years of experience with environmental permitting, computer-aided drafting, and surveying. He has personally managed and/or performed surveying, GIS and mapping related projects throughout the U.S. Mr. Uber has trained survey personnel with the latest surveying, mapping and GIS data collection hardware and software. These systems include robotic, auto tracking and reflectorless Electronic Distance Meter (EDM) total stations, GPS-RTK hardware and software, as well as computer aided drafting software. Mr. Uber received his MBA from Point Park University, and his BS in Parks & Recreation, Natural Resource Management, from Slippery Rock University.

JT Sutton - Construction Management Lead

Mr. Sutton is a Senior Construction Support Specialist with 33 years of specializing in the management and protection of environmental resources throughout West Virginia. Mr. Sutton's responsibilities include the scheduling and management of a group of environmental inspectors involved in the field inspection of active construction and post-construction projects located within West Virginia and Ohio. He is also responsible for client coordination on upcoming project permitting and in-progress and post-construction project activities, as well as relaying compliance issues identified as part of project inspections. Other duties include continuing personal inspection of on-going projects to identify issues of environmental non-compliance as applicable under state and federal regulations and permitting. He also serves as a direct liaison between WVDEP inspectors and client representatives. Mr. Sutton received his BA in Anthropology from West Virginia University.

PROPOSED SUBCONSULTANTS

EnviroProbe Integrated Solutions - Subsurface Drilling Services

GAI is proposing to use EnviroProbe Integrated Solutions (EnviroProbe) for Subsurface Drilling Services and to assist in engineering and testing services. Founded in 2006, EnviroProbe is a woman-owned small business located in Morgantown and Nitro, West Virginia. EnviroProbe's diverse staff includes engineers, environmental professionals, geologists, scientists, Licensed Remediation Specialists, well drillers, equipment operators, inspectors/field technicians, and laborers. EnviroProbe's experienced operators have provided direct-push, environmental drilling, and geotechnical drilling services since 1995. EnviroProbe's staff values safety, holding high standards for both employee and jobsite safety. EnviroProbe is a member of ISNetworld, Avetta, PEC Safety, and SafeLandUSA.

Geotechnics, Inc. - Construction Materials Testing Services

Geotechnics, Inc. (Geotechnics) will perform Construction Material Testing Services to support projects, as needed. Their geotechnical laboratories are equipped to handle many testing needs. From a few samples with basic classification tests to several hundred samples with a complex series of characterization, compaction, consolidation, strength, and permeability tests. Their facilities enable them to perform a range of tests simultaneously on samples of varying size and their geotechnical laboratories are home to some of the most comprehensive test equipment in the country. The Geotechnics testing laboratory is recognized as being in compliance with NQA-1-1994 Edition Quality Assurance Requirements for Nuclear Facility Applications.

Eagle Surveying - Surveying Services/Legal Ownership of Properties

GAI will lead surveying services through our internal survey group and will utilize Eagle Surveying to support projects, as needed. Eagle Surveying, headquartered out of Charleston, West Virginia, is a family owned and operated surveying business. For assigned Projects, Eagle Surveying will be responsible for surveying services and verifying legal ownership of properties. Incorporated since 1992, Eagle Surveying offers a range of professional surveying services. They utilize the latest state of the art surveying and computer equipment to gather, process, and prepare surveys, designs, and reports. Automatic total station survey instruments are used to gather and collect field data, and CAD stations are linked to both full-size plotters and ink jet printers for final output. Eagle Surveying is committed to the citizens and businesses in West Virginia, providing professional surveying services for a wide range of industries such as municipal utilities, oil and natural gas, coal, highway construction, and residential construction. GAI has worked with Eagle Surveying since 1988 on 90 projects throughout West Virginia. We have recently worked with Eagle Surveying on the Belle (Sneed) Drainage Project for the WVDEP-DLR-AML.

3.0 PROJECT UNDERSTANDING & APPROACH

PROJECT UNDERSTANDING

GAI understands that the WVDEP-DLR-AML is soliciting bids from qualified firms to provide architectural/engineering services for the 2023 AML Contract N2 Group of Projects located in Harrison, and Marion Counties. The Group of Projects in this Contract are anticipated to be "full service" Architectural/Engineering (A/E) design, planning, realty, and construction services, which include, but are not limited to: Civil, Geological, and Hydrological Services.

GAI understands that Project goals and objectives are as follows:

1. **NEPA tasks and Infrastructure Investment and Jobs Act (IIJA) compliance.**

   GAI has assisted numerous clients with successfully completing NEPA documents and supporting studies. Our staff of ecologists, environmental and cultural resources specialists, planners, geologists, hydrologists, engineers, and support staff offer a complete range of NEPA project experience throughout West Virginia.

   GAI's goal is to assist our clients in satisfying the environmental policy goals for each of their projects. NEPA requires agencies to identify and consider potential impacts of their proposed action and inform the public before making a final decision. Our specialists are experienced in establishing matrices to identify the appropriate agencies, regulations, and Executive Orders in order to create a schedule for each project. Our proposed staff will analyze the proposed action and define a range of alternatives, including a "No Action" alternative that is in true contrast to the proposed action. GAI will justify the proposed action through a comparison of its alternatives in order to justify an agency's authorization.

   GAI analyzes the impacts of the proposed action with regard to each coordinating agency's policies and statutory requirements, presenting design changes and mitigation measures to help gain authorization. GAI provides field surveys and feasibility studies for the following:

   - **Water Resources:** Conduct and assess wetland, stream, and aquatic surveys
   - **Protected Plant and Animal Species:** Section 7 consultation for threatened and endangered species, as well as state consultation
   - **Socioeconomic and Environmental Justice:** Provide baseline conditions and potential impacts from construction, operation, and maintenance
   - **Air:** Modeling, analysis, and permitting
   - **Historic Properties and Cultural Resources:** Conduct Phase I surveys and Phase II National Register evaluations
   - **Stormwater Design and Land Development Engineering:** Planning, design, permitting, and construction for a wide range of projects that fulfill Leadership in Energy and Environmental Design (LEED) requirements

   GAI is familiar with the IIJA and the *Draft Guidance on the Bipartisan Infrastructure Law (BIL)*, which addresses energy and power infrastructure, water infrastructure, and more. GAI understands that NEPA documents need to comply with the BIL. GAI is very familiar with NEPA compliance with Environmental Justice laws and disadvantaged communities.

2. **Determine legal ownership of properties & provide legal documentation to substantiate legal ownership findings (if any).**

   GAI surveyors will perform field surveys, office computations, and computer aided drafting in accordance with West Virginia, Title 23, Series 5, Section 23-5-7, "Minimum Standards for Surveys." We will research and review current available public record documentation for the one parcel and adjacent parcels and easements affecting the parcels. We will search for boundary evidence on the ground, and we will survey the location of found evidence. We will reconcile the evidence with the public record research to determine relevant property boundary ownership and easement locations. Depending on the project location, our subconsultant, Eagle Surveying, can also support these services.

3. **Develop construction plans and technical specifications to reclaim mine portals, drainage controls and systems, slope stabilization, coal refuse reclamation, stream restoration, subsidence repair, stormwater and erosion and sediment control, regrade and revegetation, and all other conditions encountered on the project sites.**

   GAI understands that we are to develop construction plans and technical specifications for AML projects. GAI's reputation as one of the nation's experts on mine stabilization, mine fires, mine reclamation, and AMD remediation is the foundation for the solutions we provide to clients. We have been delivering services to clients for over 65 years, including geotechnical investigations, overburden characterizations, mine subsidence evaluations and mine stabilization design, mine shaft backfill operations, underground ventilation studies, mine atmosphere gas characterization, economic studies, risk assessments, AML reclamation studies, and mine fire investigations and abatement. GAI's design capabilities for mine facilities includes mine seals, haul roads,

dams and impoundments, sedimentation ponds, coal preparation plants, water control and treatment facilities, AMD treatment, and waste disposal areas.

4. **Obtain, maintain, and release required permits.**

   GAI guides clients through the complexity of federal, state, and local agency environmental and permitting regulations. Our established agency relationships and study processes advance small projects as well as large regional efforts. Whether new gas and electric corridors, infrastructure rehab, or brownfield redevelopment, GAI conducts detailed environmental studies in the initial project planning stages to keep permitting, planning, and construction on schedule.

   We conduct comprehensive assessments that address impacts to wetlands and floodplains, terrestrial and aquatic natural systems, vegetation and wildlife, cultural resources and socioeconomics, air and water quality, noise levels, aesthetics, and geologic and hazardous conditions. Our professionals identify issues to avoid and minimize impacts where possible, prepare permit applications, and develop mitigation plans for unavoidable impacts. We develop cost-effective solutions to meet regulatory requirements while supporting client schedules. With advanced GIS capabilities, GAI streamlines the NEPA process through large-volume data sharing that optimizes the regulatory review process. We work extensively with regulatory agencies to obtain permits and clearances for many types of projects.

5. **Provide resident project representative, quality assurance/quality control certification, and prepare daily field activity logs summarizing construction activities.**

   GAI's engineering and inspection services cover the building process, and our pool of resident engineers and construction specialists skillfully address the distinct construction challenges associated with AML projects. GAI construction specialists evaluate each construction project before it begins, tailoring staff and resources to fit the need, and setting a tone of cooperation and close communication. GAI uses pre-construction meetings with clients, owners, contractors, and subcontractors to outline communication methods, detail change order and pay request processes, and emphasize milestone completion dates. We believe successful pre-construction conferences are the basis for the successful start of a project.

   GAI specializes in complex, multi-phase construction projects for state agencies, municipalities, institutions, private developers, and power providers. Our construction professionals test construction material quality, inspect workmanship, and monitor on-site construction safety. Our services often include progress and materials reporting, shop drawing review, plan interpretation, pay request administration, claims and disputes resolution, and more. We follow each stage of construction to observe that the work is executed in accordance with the contract documents, and administer concrete, bituminous material, steel, and soil sample testing.

   For construction activities, GAI construction professionals will observe work being performed during construction and write activity reports summarizing field activities and testing performed. Daily field logs will be submitted weekly to the WVDEP-DLR-AML for review.

   GAI understands the importance of implementing public information processes that keep project stakeholders well informed. After construction is complete, we submit a report to the client, summarizing overall performance and including an evaluation of the established goals and objectives.

PROJECT APPROACH AND METHODOLOGY

GAI strives to perform as an extension of our Client's staff with a service-oriented approach. Our approach is focused on regular and effective communication to keep the WVDEP-DLR-AML informed of progress and to address Project challenges as they arise. GAI has set forth a number of communication, management, and monitoring systems to handle this Group of Projects and we look forward to implementing them on WVDEP-DLR-AML's behalf. GAI's Project Management Plan (PMP) will be used to manage and communicate the Project scope, schedule, and budget to promote the successful implementation of this Group of Projects. This PMP includes: Project Approach, Coordination and Scheduling, Health and Safety Plan Implementation, and Quality Assurance/Quality Control. GAI's proposed Project Organizational Chart is presented as Figure 1 in Section 2.0 of this EOI.

Project Approach

Project Management will be provided by Mr. Jason Gandee who works out of GAI's Charleston Office. He will be responsible for the day-to-day management and performance of these Projects. Mr. Gandee will review the WVDEP-DLR-AML work directive and prepare the Scope of Services and Cost Proposal. A written Proposal, including a detailed cost estimate, (man hours and expenses associated with the Project) will then be prepared and submitted to the WVDEP-DLR-AML for review. Upon WVDEP-DLR-AML's approval of GAI's Proposal, Mr. Gandee will arrange for the start of the work. Included will be Project staffing, arrangement and detailing of the Scope of Services to be provided by GAI, and review of the Project budget and schedule.

Mr. Gandee will generally supervise the work in progress and review work products at intermediate points prior to the submittal to the WVDEP-DLR-AML and will be responsible for serving as the liaison with the WVDEP-DLR-AML Project Manager, including Project status reports, as required. Additionally, he will oversee the IIJA program in coordination with the WVDEP-DLR-AML.

GAI's Charleston office is approximately a 10-minute drive to WVDEP-DLR-AML's Headquarters, located in Downtown Charleston, West Virginia. Engineering design work will be performed out of GAI's offices in Charleston, West Virginia; Bridgeport, West Virginia; Pittsburgh, Pennsylvania; and Southpointe, Pennsylvania, as required. GAI's offices in Charleston and Bridgeport will allow for ready access to the Group of Projects. GAI's Bridgeport Office is also conveniently located, as it is in the same complex as the WVDEP-DLR-AML's Bridgeport Office.

Mr. Charles Straley, PE, PLS, MS, will act as the Project Advisor, where he will provide his expertise in AML design projects and in the areas of geotechnical engineering, design of drainage conveyances, subsurface investigations, mining, soil and rock mechanics, subsidence exploration, foundation and embankment design, slope stability and landslide engineering, impoundment engineering, acid mine drainage, water feasibility studies, access for construction, and material construction specifications. Mr. Straley has managed or provided engineering design services for over 95 AML projects for the WVDEP.

GAI's large number of experienced staff and range of capabilities permits us to respond quickly, providing flexibility, and includes input to the Project's staff from in-house experts. GAI's method of staffing projects, as evidenced by our performance on prior projects for the WVDEP-DLR-AML, is to assign a team with a skill set that aligns with the Project requirements in support of the Client's Project goals and budget. Should it be necessary, the GAI Team can draw on the expertise available within GAI's 800+ personnel in our 25 office locations.

Coordination and Scheduling

Project Initiation

GAI will meet with WVDEP-DLR-AML personnel and appropriate Project stakeholders for a kick-off meeting to review the field safety and property access protocols, schedule, points of contact, and coordination and communication systems.

Project Communication

GAI will participate in routine (typically bi-weekly) conference calls with WVDEP-DLR-AML and Project stakeholders, as required. GAI's Project Manager can lead the calls if requested. GAI will provide a conference call phone number to support the conference calls, which can be conducted using Microsoft Teams, which will allow sharing of the desktop to display data for discussion. During the calls, GAI will update the WVDEP-DLR-AML regarding the status of the Project and to identify information needs or items that may affect the Project schedule and/or cost.

Project Scheduling

GAI uses either Primavera, Microsoft Project, or Excel scheduling spreadsheets for critical path scheduling, which tracks deliverables, schedule, and budget. GAI will work with the WVDEP-DLR-AML to build a baseline schedule. The baseline schedule is then updated on a periodic basis, typically weekly or monthly, depending on the pace of the Project.

Health and Safety Plan Implementation

Health and Safety Plans are required to be developed and implemented whenever project staff are expected to conduct fieldwork, as well as whenever site reconnaissance activities expose employees to hazards that must be controlled. The purpose of the Health and Safety Plan is to identify, investigate, and mitigate potential hazards and unsafe conditions en route to/from and at the project site. The Health & Safety Plan defines the specific project tasks and appropriate control measures for safe completion of project tasks through the use of a Job Hazard Safety Analysis process. It also contains information about project personnel; required personal protective equipment; mandatory project staff training; and emergency response information and procedures. This procedure applies to GAI staff as well as GAI subcontractors.

Quality Assurance/Quality Control

Project Accounting

GAI has established a Project Accounting Group to monitor cost and manage reporting. This group utilizes Deltek Vantagepoint, GAI's enterprise management software, to monitor the cost of each project. GAI Project Managers work with Project Accountants to establish baseline budgets for each project and associated task(s) in Deltek Vantagepoint based on the agreed upon scope and budget. These budgets establish the baseline to monitor and measure project progress and financial performance as the project evolves.

Invoice Management

To track and manage the Project budgets, GAI Project Mangers utilize Deltek Vantagepoint, with Project Accounting assistance. GAI incorporates budgets in Vantagepoint on a weekly basis. Vantagepoint allows our Project Managers and Accountants to evaluate many different project metrics to include the awarded value for each task, approved change order amounts, current invoice amount, amount invoiced to date, remaining amounts approved, and physical percent complete. To manage and document the Projects' scope, if activities are determined to be required that are not part of this scope (change orders), GAI will provide work plans to be approved. GAI will incorporate these change orders into Deltek Vantagepoint as they are approved. GAI's proposed routine conference calls will include a review of the Project budget and change orders, as needed.

Quality Management System

GAI understands the importance of providing our clients with on-time, cost-effective, quality professional services. The continued success of our firm is directly related to our ability to continue to support the cost, quality, and schedule requirements of our projects. We achieve this goal through our experienced professional staff and by utilizing our QMS. GAI's QMS is based upon a continuously improving project delivery strategy that reflects our client's needs and utilizes current technology. The Project Delivery System provides the quality assurance and quality control functions from project inception through project closeout. The Project Delivery System incorporates processes and procedures that describe how professional services are planned, executed, checked, verified, and delivered to our clients. The system is flexible so that it allows GAI to meet the needs of individual clients.

Data Management

GAI will store digital information on corporate servers, including Microsoft Office documents, GIS shape files, CAD files, and PDFs of mapping. GAI will provide a means to share large files with the WVDEP-DLR-AML through the use of a password protected FX site or by providing direct links to files on the server through the use of GAI's Newforma or SharePoint System.

ASSUMPTIONS AND UNDERSTANDINGS

GAI's Expression of Interest has been prepared based on the following assumptions and understandings:

1. WVDEP-DLR-AML will give GAI prompt notice whenever it observes or otherwise becomes aware of any development that affects the scope or timing of GAI's performance.
2. WVDEP-DLR-AML will examine and provide comments and/or decisions with respect to any GAI interim or final deliverables within a period mutually agreed upon.
3. GAI will discuss and formalize the final schedule with the WVDEP-DLR-AML upon Authorization to Proceed.
4. Any of WVDEP-DLR-AML's other consultant(s)/contractor(s) will cooperate and coordinate with GAI in a timely and efficient manner.

5.0 REFERENCES

The following are references of GAI clients served in recent years by one or more members of the designated Project Team.

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3. J.W. Hawk, PE
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4. Ray Perry BCO, CFM, COSS
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5. Kristi Soltysiak
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6.0 CLOSING

The GAI Team is excited about the opportunity to work with the WVDEP-DLR-AML on this Group of Projects, and we look forward to speaking with you about our AML experience in West Virginia. We believe that we can be a strong partner with the WVDEP-DLR-AML, working together towards the success of these and future projects. Should you have any questions or would like to speak with us about our EOI or services, please feel free to contact Project Manager, Jason Gandee at 681.245.6484.

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APPENDIX A

PROJECT EXPERIENCE & WVDEP AML PROJECT LIST

AML Engineering

Belle (Sneed) Drainage Project

Belle, Kanawha County, West Virginia

Project Team:
GAI Consultants

Services:
Preliminary Engineering and Planning

Surveying and Reconnaissance

Site Investigations

Design Access for Construction and Future Maintenance

Subsurface Exploration and Laboratory Testing

Hydrologic and Hydraulic Analysis

Drainage Channel Design and Installation

Construction Drawings and Specifications

Revegetation

Permitting

Pre-Bid and Pre-Construction Meetings

Periodic Construction Monitoring

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

Project Manager:
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Key Personnel:
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Charles Straley, PE, PLS, MS

Nolan Sollenberger

Ed Mayhood

Project Site

Subsurface Investigation

GAI is currently providing engineering services to the WVDEP-DLR-AML for the Belle (Sneed) Drainage Project, located in the Town of Belle, Kanawha County, West Virginia. The general project scope consists of potentially three mine portal closures and drainage conveyance (channels, culverts, and underdrains) away from residential structures.

The goals of the project include:

- Developing construction plans and technical specifications to control associated site water.
- Design plans and develop specifications for limits of disturbance, stormwater control, and erosion and sedimentation prevention. Disturbed areas will be regraded and revegetated.
- Obtain required permitting.

GAI is providing the following design services for the project: preliminary engineering and planning; surveying and reconnaissance; site investigations; subsurface exploration and laboratory testing; H&H analyses; identify areas to be cleared and grubbed; design access for construction and future maintenance; design drainage conveyances, including drainage channels, underdrains, and/or other controls to safely convey water off site; condition and revegetate disturbed areas; construction drawings and specifications; obtain required permitting and miscellaneous clearances; provide pre-bid and pre-construction meetings; and periodic construction monitoring.

AML Engineering

Route 60 Drainage Design Project

Smithers, Fayette County, West Virginia

Project Team:
GAI Consultants

Services:
Design of Drains and Drainage Structures

Installation of Mine Drainage Structures

Site Reclamation

Erosion and Sedimentation Control

Disposal of Mine-Related Debris

Revegetation

Permitting Services

Construction Drawings and Specifications

Access Road Construction

Quality Assurance/Quality Control

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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Key Personnel:
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Drainage Design Post-Construction

Drainage Discharging into a Stormwater System

GAI provided engineering services to the WVDEP-DLR-AML for the Route 60 Drainage Project, located along U.S. Route 60 in Smithers, Fayette County, West Virginia. The project was located on a hillside slope above numerous businesses and a residential area and consisted of at least seven collapsed and draining portals. Mine drainage has been saturating the area and impacting the businesses and there was also a concern of a potential blowout.

The goal of the project was to provide reclamation for the mine portals and to provide proper drainage. GAI's approach for the control of the portal drainage was to provide mine seals with drainage pipes that discharged into formed channels and a stormwater system that would safely convey the water around the businesses located below the hillside.

GAI's scope of work included installation of temporary shoring and bracing to protect workers; erosion and sedimentation control; installation of mine seals, drains, and other drainage structures; permitting; temporary access roads; quality assurance/quality control; and cleanup of areas upon completion of work.

AML Engineering

Reynoldsville Refuse Design Project

Reynoldsville, Harrison County, West Virginia

Project Team:
GAI Consultants

Services:
Design of Drains and Drainage Structures

Installation of Mine Drainage Structures

Regrading and Soil Covering of the Refuse Pile

Site Reclamation

Erosion and Sedimentation Control

Disposal of Mine-Related Debris

Revegetation

Permitting Services

Construction Drawings and Specifications

Access Road Construction

Traffic Control

Quality Assurance/Quality Control

Client:
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Reynoldsville Mine Refuse Site

Reynoldsville Site Post Construction

GAI provided engineering services to the WVDEP-DLR-AML for the Reynoldsville Refuse Design Project, located near Reynoldsville, Harrison County, West Virginia. The goal of the project was to provide regrading and soil covering of the refuse pile, constructing access roads, providing streambank stabilization, sealing the mine portals, providing proper drainage control measures, and revegetating the areas.

GAI's scope of work included design for construction of mine portal seals, bat gates, regrading and soil covering refuse areas, subsurface drainage collection, providing proper drainage control measures, providing streambank stabilization, installation of temporary shoring and bracing to protect workers, erosion and sedimentation control, removal and disposal of mining-related debris, installation of mine drainage structures, regrading and revegetating disturbed areas, installation of mine seals, permitting, construct and maintain temporary access roads, traffic control, and quality assurance/quality control. GAI furnished supervision, labor, plants, power, equipment, and performed the operations in connection with this project.

AML Engineering

Ned's Branch Impoundment Project, Phase II

Mingo County, West Virginia

Project Team:
GAI Consultants

Services:
Reclamation Plan to Stabilize the Impoundment

Survey and Topographic Mapping

Site Reconnaissance to Locate and Identify Structures and Features

Subsurface Investigation Plan to Evaluate Site Conditions

Slope Stability Analysis

Stream Relocation and County Road Design

Construction Monitoring and Testing

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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Award:
National Award for Most Outstanding Abandoned Mine Lands Reclamation

Aerial View of Impoundment Breach

Aerial View of Impoundment Restoration

Ned's Branch impoundment is an approximate five-acre abandoned, coal refuse slurry dam near Gilbert, West Virginia, that failed due to heavy rains. The failure sent approximately 1 million cubic yards of slurry, coal refuse, and debris into the Right Fork of Ned's Branch. The displaced material blocked main Ned's Branch and Ned's Branch Road, stranding numerous families in a nearby hollow. Divided into two phases, the project encompassed removing the debris to clear the roadway and Ned's Branch and reconstructing the slurry embankment. Work on both phases followed a 24-hour, seven-day week work schedule.

GAI met with the WVDEP-DLR-AML two days after the event to discuss a Work Directive from the Department, issued under their Emergency Guidelines. Within a month, GAI completed the challenging task of developing engineering plans, drawings, and specifications for emergency stabilization of the embankment. The plans addressed excavating and regrading the refuse to establish stable slopes, locating mine portals on the site, and demolishing any remaining structures and foundations. GAI also provided periodic construction monitoring, and the project was successfully completed within eight months.

GAI completed the investigation and planning process for the second phase of the project while the first phase of the project was underway. Embracing the urgency requested by the WVDEP-DLR-AML, GAI provided solutions that re-established the integrity of the impoundment and restored the natural beauty of the site under an accelerated work schedule.

AML Engineering

Greystone Mine Drainage Design Project

Monongalia County, West Virginia

Project Team:
GAI Consultants

Services:
Design of Drains and Drainage Structures

Installation of Mine Drainage Structures

Site Reclamation

Erosion and Sedimentation Control

Disposal of Mine-Related Debris

Revegetation

Permitting Services

Construction Drawings and Specifications

Access Road Construction

Periodic Construction Monitoring

Quality Assurance/Quality Control

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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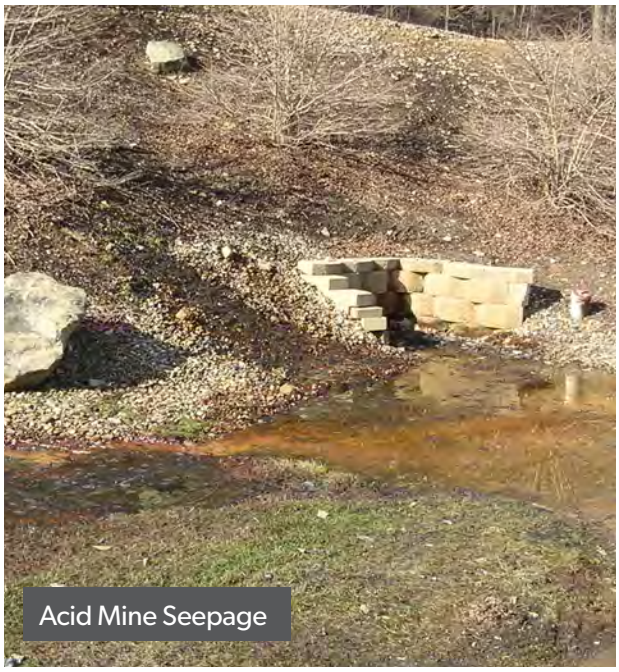

Acid Mine Seepage

Installed Drainage Structure

GAI provided engineering services to the WVDEP-DLR-AML for the Greystone Mine Drainage Project, located near Cheat Lake, Monongalia County, West Virginia. Acid Mine Drainage seepage from the highwall benches is causing hot spots in lawns and driveways and has caused flooding during heavy precipitation events.

GAI's scope of work involved providing collection of mine drainage through underdrains, a conveyance drainage system, and site reclamation. The project included installation of temporary shoring and bracing to protect workers; erosion and sedimentation control; proper removal and disposal of mining-related debris and other trash and debris; installation of mine drainage structures; drains and other drainage structures; regrading and revegetating disturbed areas; access road construction; highwall elimination; and cleanup of the areas upon completion of the work.

AML Engineering

Larry Frederick Highwall and Refuse Project

Lumberport, Harrison County, West Virginia

Project Team:
GAI Consultants

Services:
Regrading and Soil Covering of the Refuse Pile

Design of Drains and Drainage Structures

Installation of Mine Drainage Structures

Site Reclamation

Erosion and Sedimentation Control

Disposal of Mine-Related Debris

Revegetation

Permitting Services

Construction Drawings and Specifications

Access Road Construction

Quality Assurance/Quality Control

Client:
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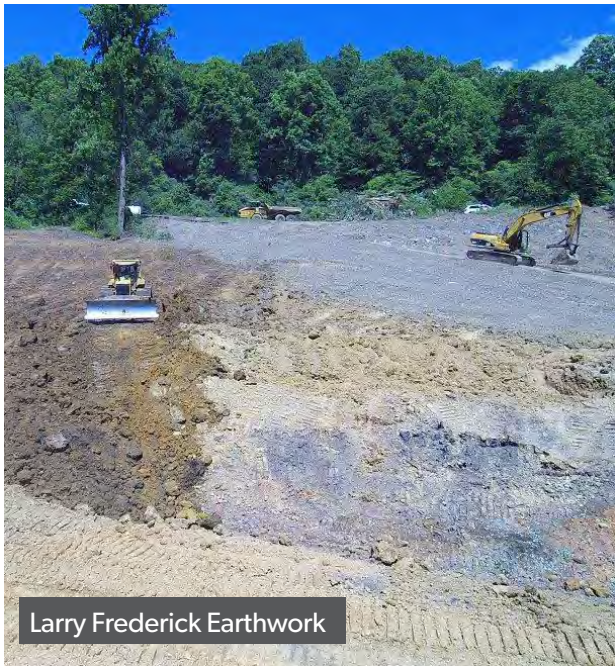
Larry Frederick Pre-Construction



Larry Frederick Earthwork

GAI provided engineering services to the WVDEP-DLR-AML for the Larry Frederick Highwall and Refuse Project, located near Lumberport, Harrison County, West Virginia. The project consists of two mine portal closures, exposed refuse pile, residential waste, and a poorly vegetated bench area.

The goal of the project included regrading and soil covering the refuse pile, constructing access roads, sealing the mine portals, refuse disposal, soil enhancement for the bench, providing proper drainage control measures, and revegetating the areas.

GAI's scope of work included installation of temporary shoring and bracing to protect workers; erosion and sedimentation control; installation of mine seals, drains, and other drainage structures; permitting; upgrading access roads and revegetating disturbed areas; quality assurance/quality control; and cleanup of areas upon completion of work.

AML Engineering

Lynch Run Highwall #6 Reclamation and Design Services

Sand Fork, Gilmer County, West Virginia

Project Team:
GAI Consultants

Services:
Highwall Reclamation
Drainage Design
Subsurface Investigation
Mine Seals
Debris Removal
Natural Stream Design
Revegetation
Permitting Services
Construction Drawings and Specifications
Construction Monitoring

Client:
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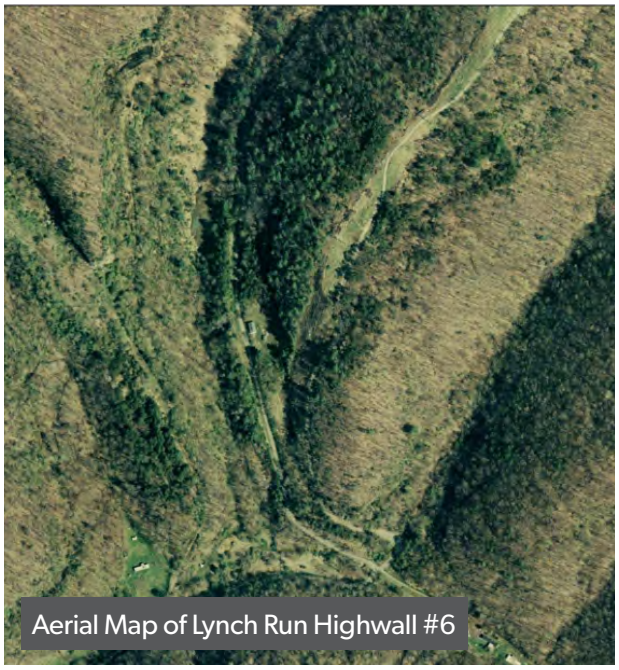

Aerial Map of Lynch Run Highwall #6

Stream Refuse

GAI provided engineering services to the WVDEP-DLR-AML for the Lynch Run Highwall #6 Project, located near Sand Fork, Gilmer County, West Virginia. The project consisted of two highwalls, six collapsed and draining portals, refuse located along a stream, and subsidence holes. GAI's scope of work involved providing backfilling the highwalls, seals for the collapsed portals, reclamation of the refuse pile, and controlled drainage, including natural stream design.

GAI developed a subsurface investigation plan to obtain information to evaluate site conditions to allow for a design of a detailed reclamation plan. Test pits were completed in some portal areas to determine the thickness of mine spoil for the reclamation of the highwalls. Access roads and test pit locations were reclaimed, seeded, and mulched upon completion.

A Section 404 permit from the USACE and Section 401 Water Quality Certification from the WVDEP, Office of Water Resources, was required for potential impacts to the stream between the highwalls after the highwalls were backfilled. To make the site accessible for construction equipment and to tie up-gradient stormwater into this stream, a regional Abandoned Mine Lands permit from the USACE was needed. GAI acted as the WVDEP's agent and met with representatives from both agencies to discuss the conceptual design and specific permitting requirements.

GAI provided engineering plans, drawings, and specifications for outlined objectives. A detailed engineer's cost estimate was also developed. GAI attended the on-site pre-bid and pre-construction conferences. Periodic construction monitoring and associated office support was provided by GAI personnel.

Oldfield Branch (Hall) Drainage Project

Naugatuck, Mingo County, West Virginia

Project Team:
GAI Consultants

Services:
Records Review
Drainage Control Measures
Mine Portal Closures
Surveying
Retaining Wall Installation
Diversion Channel Construction
Subsurface Investigation
Laboratory Testing
Water Quality Testing
Mine Seals
Construction Drawings and Specifications
Construction Monitoring

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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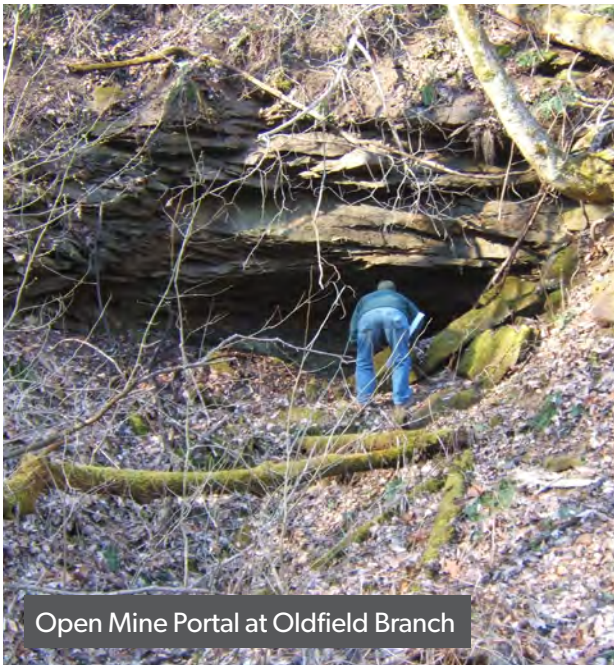
Drainage at Oldfield Branch



Open Mine Portal at Oldfield Branch

GAI provided engineering services to the WVDEP-DLR-AML for the Oldfield Branch (Hall) Drainage Project, located near Naugatuck, Mingo County, West Virginia. The project consisted of five mine portal closures, slip removal, and redi-rock retaining wall construction. The project also included upgrading access to the site and drainage control measures.

GAI's scope of work included providing subsurface investigations of the site to determine a mitigation plan for the landslide; laboratory testing; mine working conditions; sealing four mine portal closures; retaining wall installation; diversion channel construction; water quality testing; engineering plans, drawings, and specifications of the proposed design; engineers opinion of probable construction costs; permitting; pre-bid and pre-construction meetings; and periodic construction monitoring.

AML Engineering

Wheatley Branch (Luthy) Portals Project

Chapmanville, Logan County, West Virginia

Project Team:
GAI Consultants

Services:
Records Review
Mine Portal Closures
Access Road Construction
Surveying
Drainage Control Measures
Subsurface Investigation
Laboratory Testing
Water Quality Testing
Mine Seals
Construction Drawings and Specifications
Construction Monitoring

Client:
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Key Personnel:
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Wheatley Branch Drainage Control

GAI provided engineering services to the WVDEP-DLR-AML for the Wheatley Branch (Luthy) Portals Project located near Chapmanville, Logan County, West Virginia. The project consisted of 29 mine portal closures and included upgrading access to the site and drainage control measures.

GAI's scope of work involved providing preliminary engineering and planning; access road construction; 29 mine seals; providing proper drainage control measures; records review; surveying and reconnaissance; subsurface investigation and laboratory testing; water quality testing; construction drawings and specifications; permitting and miscellaneous clearances; and periodic construction monitoring.

GAI also prepared and obtained a stormwater NPDES Permit; WVDOH MM-109 permits; and a non-reporting nationwide USACE 404 permit.

AML Engineering

Amigo Portals Design Project

Raleigh County, West Virginia

Project Team:
GAI Consultants

Services:
Records Review
Design of Drainage Conveyances
Mine Portal Closures
Installation of Mine Seals
Refuse Reclamation
Stream Bank Stabilization
Water Quality Sampling
Revegetation
Permitting Services
Construction Drawings and Specifications
Pre-Bid and Pre-Construction Meetings
Periodic Construction Monitoring
Quality Assurance/Quality Control

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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Key Personnel:
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Portal #10 Wet Seal

Coal Seam at Portal #4

GAI provided engineering services to the WVDEP-DLR-AML for the Amigo Portals Project, located near Amigo, Raleigh County, West Virginia. The project included design of drainage conveyances, installation of mine seals, refuse reclamation, streambank stabilization, and revegetation of disturbed areas.

The project consisted of 18 mine portal closures, small areas of exposed refuse, and a streambank which needed stabilized. GAI's scope of work involved designing drainage conveyances, providing stream realignment and streambank stabilization with rock, streambank revegetation, installation of mine seals, refuse reclamation, water quality assessment, soil thickness and soil properties, opinion of probable cost, preparation of construction documents, and performing quality assurance and quality control.

AML Engineering

Latrobe (Gibson) Landslide Emergency Evaluation

Latrobe, Logan County, West Virginia

Project Team:
GAI Consultants

Services:
Subsurface Investigation
Site Reconnaissance
Survey
Alternative Evaluation
Permitting Services
Construction Drawings and Specifications

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

Project Manager:
Charles Straley, PE, PLS, MS
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Key Personnel:
Charles Straley, PE, PLS, MS


During Slope Reduction


After Slope Reduction

GAI responded to an urgent request from the WVDEP-DLR-AML, to evaluate an unstable landslide area situated above private residences upstream of Man along Buffalo Creek near Latrobe, West Virginia. The landslide, caused by abandoned coal mining operations, had developed scarps, cracks, rolling, and seepage through the face that was encroaching on the property.

GAI was asked to reduce the slopes, eliminate the instability, and develop provisions for controlling the drainage. An alternative analysis was conducted based on the records research, subsurface investigation, and stability analysis. The alternatives that were evaluated included: primary rock buttress, lateral drainage controls, retaining wall system, and complete removal of slide material.

The final design included the removal of the slide material, an emergency USACE permit for a valley fill, and various drainage control structures.

AML Engineering

Duck Creek (Jenkins) Landslide

Harrison County, West Virginia

Project Team:
GAI Consultants

Services:
Geological Investigations
Landslide Restoration Plan
Site Mapping
Field Survey
Drainage Channel Design
Permitting Services

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

Project Manager:
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Key Personnel:
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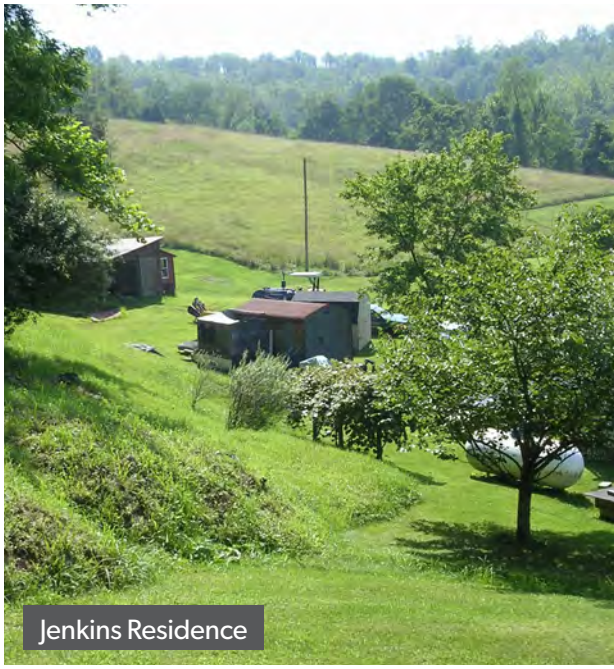
Encroaching Landslide


Jenkins Residence

GAI provided engineering services to the WVDEP-DLR-AML, for the Duck Creek (Jenkins) Landslide, located in Harrison County, West Virginia. The project's purpose was to prepare a restoration plan for a landslide located within the Duck Creek watershed that was encroaching upon the Jenkins residence. This seven-acre landslide was threatening the home, water well, and propane tank.

GAI performed site mapping and a detailed geotechnical exploration and developed restoration designs for the landslide. In addition, an existing long culvert was replaced and a rock channel was designed to protect the residence from future 25-year storm events. Utilizing an innovative and sustainable design approach, GAI was able to minimize stream impacts so only a basic nationwide USACE permit was required. The design did not require simple excavation and called for spoil to be placed in an adjacent area where streams would not be impacted.

GAI identified that the spoil causing the landslide came from a pre-law (prior to 1977) surface mine located uphill from the Jenkins residence. Our proactive approach included investigating an existing surface mine in the same vicinity. The mine owner identified a localized spot within their mine reclamation area that was having drainage issues and agreed to the placement of the landslide spoil at that location.

GAI's proactive approach to the landslide identified an existing mine and linked the landslide to mine spoil. GAI's design will protect the Jenkins residence without impacting ephemeral streams, improve an adjacent mine reclamation area, and replace the landslide material to an elevation close to where it originated years ago.

AML Engineering

Laurel Point (Saylor Run Road Slip) Project

Laurel Point, Monongalia County, West Virginia

Project Team:
GAI Consultants

Services:
Geotechnical and Geological Investigations
Subsurface Investigation
Drilling of Borings
Regrading and Drainage Controls for Refuse Piles
Engineering Analysis
Streambank Stabilization
Access Road Construction
Construction Drawings and Specifications
Remediation of Slip
Revegetation Plan
Permitting Services

Client:
WVDEP, Office of Abandoned Mine Lands & Reclamation

Project Manager:
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Key Personnel:
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Terry Queen

Laurel Point Slip Area | Exposed Highwall

GAI provided engineering services to the WVDEP-DLR-AML for the Laurel Point (Saylor Run Road Slip) Project, located near Laurel Point, Monongalia County, West Virginia. The project consisted of two sites with areas of exposed coal refuse, including collapsed and open deep mine portals, dangerous highwalls, and mine drainage. A hillside slip occurred at one of the sites, which made West Virginia County Route 19/4 (Saylor Run Road) unstable. The slip along Saylor Run Road was evaluated by GAI and was remediated by removing the material and constructing an engineered fill with a toe and bonding bench system.

GAI's scope included providing stabilization for Saylor Run Road, regrading and providing proper drainage controls for the refuse piles, and installing mine seals and bat gates in the open mine portals. Additionally, Saylor Run Road had a bridge crossing over a stream. The slope of the road had experienced sliding into the stream. In order to get materials and equipment to the site, temporary supports were added to the bridge. Streambank stabilization was also provided along the toe of the refuse along the stream to protect it from erosion. For access to the site, access roads were constructed. GAI's scope also included revegetating the area.

AML Engineering

AMD Treatment Project

West Virginia

Project Team:
GAI Consultants

Services:
Literature Search
Site Reconnaissance
Data Collection
Mine Maps
Mine Hydrology
Acid Mine Drainage
Preliminary Feasibility Assessment
Hydrologic and Hydraulic Analysis
Water Quality Analysis
Engineer's Opinion of Probable Cost

Client:
Multiple Conservation Agencies (West Virginia)

Project Manager:
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Key Personnel:
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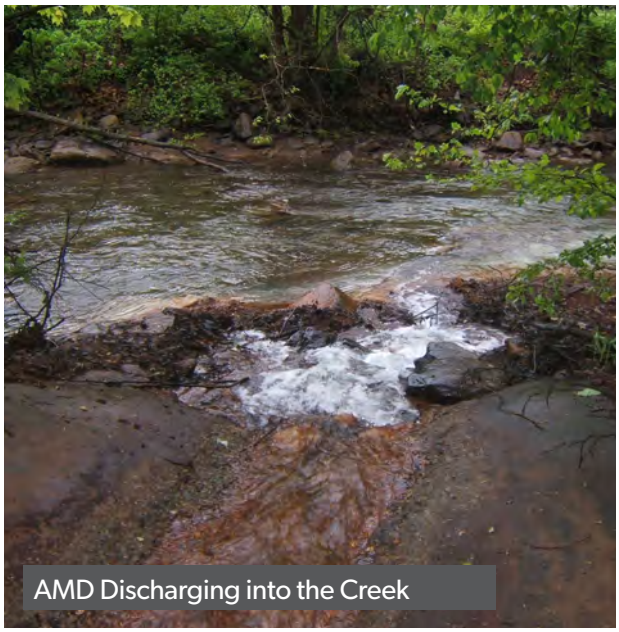

AMD Discharging into the Creek

AMD Mixing/Treatment Pond

GAI partnered with three Conservation Agencies in West Virginia to correct the AMD discharge problem at a nearby mine. The overall goal of this project was to improve the water quality in a creek and to restore the fish habitat in the lower five miles of the stream. The many benefits to the natural environment included removing the ugly orange and white staining caused by the AMD precipitate.

The AMD enters the creek about five miles upstream of the river. The creek is a scenic stream that could become a great place for fly fishing and other recreational pursuits after the AMD sources are removed from the creek. The creek meanders through a large city, a park, and through residential neighborhoods, and is visible and accessible to the population of the area. A rail trail also parallels the creek.

The project included five phases: 1) Analyze Problems and Compile Alternatives, 2) Develop Scope of Work, 3) Site Investigation, 4) Preliminary Design, and 5) Final Design. GAI was under contract to perform Phases 1 and 2. In December 2006, GAI completed a Phase I Evaluation of AMD Problem Report which included bench scale testing. This report summarized the available data on the mine, mine discharge and other background data. In March 2007, GAI completed a Treatment Alternatives Report, which provided recommendations for the best ways to deal with the mine AMD. This report was an evaluation of several alternatives, passive, active and innovative, for the treatment of the AMD discharge. In addition, the "no build" alternative was also evaluated.

The best long-term solution was to convey the discharge to a nearby river where it can be diluted by the large volume of water with limited adverse effects to the river's water quality. The City Utility Board expressed interest in the conveyance of the AMD to the river because the required piping could be combined with storm sewer improvements. This helped solve combined sewer overflow problems that had to be corrected to meet EPA mandates.

Landslide Engineering

White Avenue Slip Project

Morgantown, West Virginia

Project Team:
GAI Consultants (Prime)

EnviroProbe Integrated Solutions

Services:
Geotechnical and Geological Investigations

Mitigation Alternatives

Permitting Services

Preparing Construction Plan, Specifications, and Bid Documents

On-site Construction Inspection and Administration Services

Client:
City of Morgantown

Project Management:
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Key Personnel:
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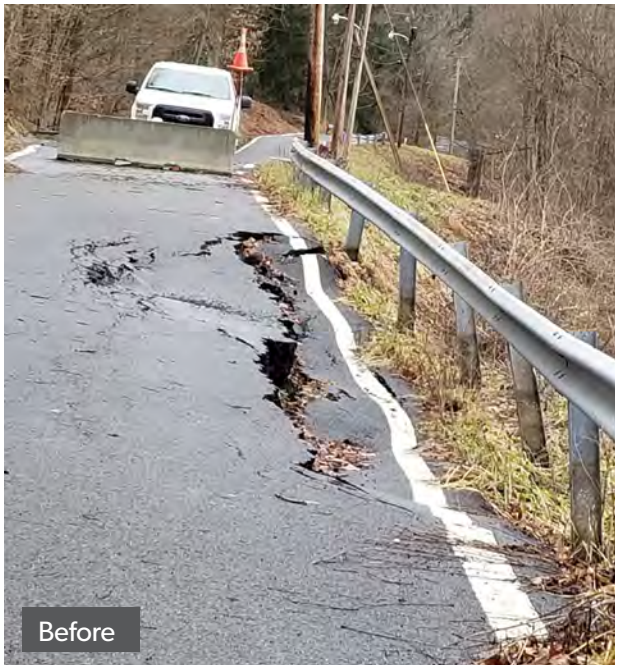
Michael Holbert, PE

Keith Schoon, PE, MS

Steph Hartman, PE, MS



The Team of GAI and EnviroProbe provided engineering services to assist the City of Morgantown with the stabilization of the landslide along an avenue in West Virginia. This project included a subsurface exploration program to obtain geotechnical data for the project and to provide recommendations and construction drawings for site stabilization. Specific tasks performed for this project included:

- Reviewing site geologic and mining conditions along the available historic topographic maps and aerial photos;
- Performing a site reconnaissance;
- Performing a geotechnical subsurface exploration consisting of three test borings;
- Conducting laboratory testing of select soil and rock samples;
- Developing alternatives to stabilize/remediate the landslide;
- Developing construction drawings of the preferred alternative; and
- Performing on-site construction inspection and administration services during the construction phase.

Stream & Wetlands Engineering

Stream & Wetlands Restoration Project

West Virginia

Project Team:
GAI Consultants

Services:
Desktop Mitigation & Restoration Plan

Baseline Condition Assessments

H&H Analyses

Stream Design using NCD Techniques - Designed within a Constrained Environment

Federal, State, and Local Permitting

Construction Monitoring

Topographic, Pre-Construction Stakeout, and As-Built Survey

Annual Monitoring and Reporting

Client:
Confidential Energy Client

Project Management:
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Key Personnel:
Alex Cook

Mary Beth Berkes, PE, MS

GAI assisted in the assessment of resources and the development of compensatory mitigation plans for the impacted resources after the U.S. EPA issued a Consent Decree to our client for multiple violations of the Clean Water Act during the construction of natural gas well drilling pads and associated facilities throughout West Virginia.

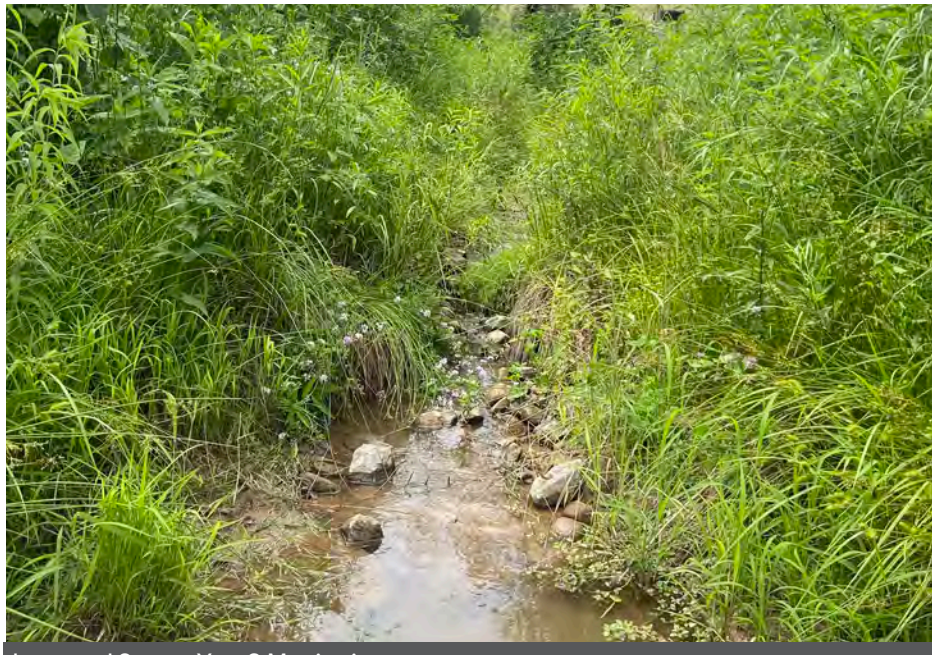
Through post-construction site evaluations and forensic delineations, GAI determined that activities associated with this project resulted in impacts to 455-linear feet of perennial stream. Utilizing the West Virginia Stream and Wetland Valuation Metric (SWVM) as guidance, GAI determined the total debris for the impacts at each site, as well as the required credits to provide enough off-set. Designed within a constrained environment, GAI developed a mitigation and restoration plan which provided enough SWVM credits to offset the debits, resulting in 256-feet of stream restoration. Additional mitigation was provided by the client via allotment of credits from an off-site permittee-responsible mitigation site within the same watershed.

GAI was involved in baseline condition assessments, H&H analysis, stream design utilizing Natural Channel Design approaches, and federal, state, and local permitting.

During construction, GAI was on-site conducting construction monitoring and completed an as-built survey after construction completion. GAI will conduct annual monitoring and prepare monitoring reports for the next five years, documenting conditions and performance standard compliance.

Impacted Stream Before Construction

Impacted Stream Post Construction



Impacted Stream Year 3 Monitoring

Impacted Stream Year 2 Monitoring

Streambank Restoration

Streambank Stabilization Project

Northern West Virginia

Project Team:
GAI Consultants

Services:
Project Coordination and Management

Streambank Restoration and Stabilization Plan

Hydrologic and Hydraulic Analyses

Floodplain Assessment and Permitting

Erosion & Sediment Control Plan

As-Built Drawings

Agency Coordination

Construction Observation and Management

Client:
Confidential Energy Client

Project Management:
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Key Personnel:
Mary Beth Berkes, PE, MS

Shane Fisher, PE

GAI completed design and permitting for stabilization of approximately 80 linear feet of eroded streambank in Northern West Virginia. Riprap protection (bank and toe) were designed at the areas experiencing erosion. A Floodplain Building Permit for the project was issued in January 2017, and the project was constructed in March 2017. High flows during construction made use of the designed jersey barrier impractical, and the project was constructed in the wet, utilizing a floating silk screen for erosion and sediment control.

In March 2018, an additional area just upstream of the previous project, near a utility pole, experienced a washout resulting in additional bank erosion, which included an additional 260 feet of eroded streambank. The additional reach presented the challenge of a tributary discharge and another area very close to the state highway, thus, the riprap was proposed to be constructed in phases. Riprap protection was provided throughout the eroded streambank using rock designed to withstand erosive velocities and a bench to provide floodplain relief.

The bank stabilization was designed to be stable under the bankfull event and the 100-year event was assessed for floodplain permitting. The existing bank slopes range from approximately 1.5H:1V to near vertical in eroded areas. The riprap revetment was designed to match existing grades with a maximum slope of 1.5H:1V. Voids from the erosion were filled in with additional rock or compacted backfill.

Bank protection was designed in accordance with federal and state standards, and disturbed areas near the stabilized streambank were graded back to its original condition and revegetated. The permanent stabilization follows the assumed alignment of the original stream prior to the bank erosion. The length of the permanent stabilization for the entire design project was 340 feet.

Streambank Restoration Project

West Virginia

Project Team:
GAI Consultants, Inc.

Services:
Project Coordination and Management
Initial Site Assessment
Baseline and Existing Conditions Analysis
Design and Mitigation Plan
Permitting
Construction Documents

Client:
Confidential Energy Client

Key Personnel:
Mary Beth Berkes, PE, MS
Aimee Kay, PWS, MS
Shane Fisher, PE
Alex Cook
JT Sutton
Sean Uber, MBA

GAI developed and prepared a stream restoration plan with necessary plan sheets to fulfill the Client's obligations of restoring and monitoring approximately 450 linear feet of ephemeral and intermittent stream. Stream restoration involved reestablishment of channel in a previously filled valley. All streams will be restored to stable pattern, dimension, and profile, providing increased bedform diversity, sediment, transport, and biological lift.

GAI's involvement in the project was from the initial site assessment to providing copies of the final set of drawings and specifications in the final construction package, coordinating directly with the EPA to comply with a Consent Agreement and Final Order.

Permitting included USACE (Section 404) Nationwide Permit 27 for Stream Restoration, WVDEP State General Water Pollution Control Permit, and a Floodplain Permit. The WVDEP General Water Pollution Control Permit application included a completed Notice of Intent form; Project-Specific Erosion and Sedimentation Control Plan Drawings; Stormwater Pollution Prevention Plan, including narrative, figures, and drawings; and Public Notice Sign Figure. A Groundwater Protection Plan was also prepared. GAI managed overall construction being on-site 100 percent of the time for construction observation services. Pre-construction during construction and as-built survey will be conducted by GAI to prepare necessary construction files and as-built survey and conditions plan sets. GAI will then lead and conduct annual monitoring and reporting for a minimum of five years after construction.

NEPA Project Profile

J.C. Cruikshank Bridge Replacement Project

Ivydale, West Virginia

Project Team:
GAI Consultants

Services:
Environmental Assessment
Section 4(f) Evaluation
Criteria of Effects Assessment
Phase I Archaeological Survey
Supplemental Phase I Archaeological Survey
Architectural and Historical Resources Survey

Client:
West Virginia Department of Transportation, Division of Highways (WVDOH)

Project Management:
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Key Personnel:
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Lee Arco, RPA, MA
Amanda Wasielewski, MS
Charlie Straley, PE, PLS, MS
Linda Ealy, SPWS, MS
Mary Beth Berkes, PE, MS
Michael Holbert, PE

The WVDOH, in cooperation with the Federal Highway Authority (FHWA), is proposing to replace a bridge in West Virginia which is considered to be structurally deficient and functionally obsolete. The purpose of the Project is to provide a two-lane bridge that meets current West Virginia bridge safety and design criteria, provides traffic efficiency and traffic flow, and maintains community cohesion with access to local communities.

The existing bridge is a two-lane, Parker Through Truss bridge with a concrete deck covered with asphalt and a concrete curb constructed between 1939 and 1940. One of the concrete wingwalls is stamped with "WPA 1940," thus, the bridge installation is presumed to be related to the Works Progress Administration. The bridge has been determined eligible for listing in the National Register of Historic Places, and thus, a Programmatic Section 4(f) evaluation was conducted by GAI as required in order to replace the bridge.

GAI completed a Phase I archaeological survey of the 8.47-acre Project APE. This work included the investigation of five locations using an Oakfield probe and two locations using a bucket auger to investigate soil stratigraphy and confirm existing disturbances. Additionally, four judgmental shovel test pits were placed to identify potential historic-era deposits. No prehistoric or historic cultural materials were recovered during this Phase I investigation.

A supplemental Phase I archaeological survey resulted in the identification of a stone foundation wall associated with a former cellar as well as an associated stone retaining wall. These investigations included the excavation of seven shovel test pits in this area, including one site that represents a twentieth-century cellar. A total of 23 twentieth-century artifacts were recovered from four of the shovel tests, all from fill or disturbed deposits.

An architectural and historical resources survey consisted of an approximate 750-foot buffer extending from the bridge. GAI identified a total of 16 architectural and historical resources, including the bridge, located within the Project Area of Potential Effect. Of these 16 resources, two were previously recorded and 14 were newly recorded. None of the 15 remaining resources located within the Project APE are eligible for NRHP listing. The West Virginia Department of Arts, Culture, and History concurred with these recommendations, but added that Criterion A should be considered as part of the bridge's eligibility and that the Coal & Coke Railway was NRHP eligible under Criterion A.

Subsequently, a Criteria of Effects assessment was completed resulting in the confirmation that the project will have an Adverse Effect on the bridge, as the preferred project alternative involves the demolition and removal of the structure. GAI also recommended that the project will have No Effect on the Coal & Coke Railway. Following the execution of a Memorandum of Agreement (MOA), GAI completed a state-level recordation of the bridge satisfying some of the requirements in the MOA.

NEPA Project Profile

Dingess Street Bridge Replacement Project

Logan, West Virginia

Project Team:
GAI Consultants

Services:
Environmental Assessment

Finding of No Significant Impact

Programmatic Agreement

State, Federal, and Native American Tribal Coordination

Architectural and Historical Resources Survey

Archaeological Survey

Background Research

Archaeology Investigation

Client:
West Virginia Department of Transportation, Division of Highways (WVDOH)

Project Management:
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Linda Ealy, SPWS, MS

Award:
2016 Engineering Excellence Award for Planning, Traffic, and Environmental Category

GAI conducted an Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) for this Bridge Replacement Project in compliance with the NEPA, as described in Section 1508.9 of the Council on Environmental Quality's NEPA Regulations. The WVDOH, in cooperation with the FHWA, proposes to replace the existing bridge in West Virginia. The bridge carries a multi-lane Urban Arterial highway over a river. Two build alternatives for the bridge replacement were evaluated in the EA that GAI prepared.

GAI paid particular attention to cultural resources, the river, and the effects of the project on the rural West Virginia community. Meetings were held with the West Virginia SHPO, the FHWA, and Native American tribes regarding discovery, treatment, and disposition of any identified human remains. This project included several public workshops and meetings; and additionally, included two meetings with Native American tribes as part of the development of a Programmatic Agreement.

After evaluating the impacts of two build alternatives selected in the EA, GAI concluded that either build alternative was satisfactory for construction based solely on environmental factors. GAI's Environmental personnel worked with our Cultural Resources staff to finalize this EA, with the construction for the new bridge beginning in 2019. Subsequently, Alternative 6A, placing the new bridge 40 feet upstream, was selected for construction, and approved by the FHWA on March 17, 2016.

A FONSI was prepared pursuant to 40 CFR, Parts 1500-1508, and includes information on a public workshop meeting on the alternative selected for construction, public and agency comments on the Preferred Alternative, any additional studies required from public and agency comments, future coordination with Native American Tribes, and the responsible parties who will carry out project mitigation.

During the intensive architectural survey, GAI photographed resources appearing to be 50 years old or older with a high-resolution digital camera. GAI mapped locations on U.S. Geological Survey topographical quadrangle maps and aerial field maps, and recorded detailed notes concerning architectural style and materials.

The architectural investigation identified 55 architectural and historical resources within the Project APE. While the bridge was recommended as not NRHP eligible, GAI and the WVDOH recommended that the Railroad Grade and Truss Bridge, which were previously recorded, as NRHP eligible under Criterion A. The West Virginia SHPO concurred with this recommendation.

Most recently, as part of the Programmatic Agreement, GAI conducted archaeological monitoring of bridge construction to determine the presence of intact archaeological deposits, cultural features, and potential human remains within the APE during earth-disturbing project activities. No artifacts, intact soil horizons, features or human remains were encountered including those that might have been associated with the nearby site. As a result, the West Virginia SHPO concurred that the project will have no adverse effect on

NEPA Project Profile

Fourth Street Arch Bridge Replacement Project

Weston, West Virginia

Project Team:
GAI Consultants

Services:
Environmental Assessment

Finding of No Significant Impact

Categorical Exclusion Evaluation

Replacement Alternatives

Background Research

Phase I Archaeological Survey

Architectural Survey

West Virginia Historic Property Inventory Forms

Criteria of Effects Report

Client:
West Virginia Department of Transportation, Division of Highways (WVDOH)

Project Management:
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Steph Hartman, PE, MS

Under contract with the WVDOH, GAI conducted environmental services for an EA and a FONSI in compliance with NEPA, as described in Section 1508.9 of the Council on Environmental Quality's NEPA Regulations. GAI's Client, in cooperation with the FHWA, proposed to replace the existing bridge in a rural town in West Virginia. Several National Register-listed properties are located within close proximity to the bridge, which is a contributing resource to the listed Downtown Residential Historic District. The structure, built in 1913 by the Luten Bridge Company, is considered obsolete and structurally deficient. Replacement or rehabilitation of the bridge was required. As the bridge continued to function in that condition, the capacity of the bridge and corresponding load posting, limited to 10 tons at the time, would further decline over time. Eventually, the bridge would have to be closed to traffic and the bridge structure removed.

The transportation needs of project included three factors: improve safety by upgrading the bridge to current design standards; maintain community cohesion; and provide for traffic and pedestrian efficiency. As such, GAI and our Client examined several alternatives to the bridge replacement, including three build alternatives, in addition to the renovation and no build alternative. The alternatives were developed to minimize impacts to a number of environmental, social, and cultural resources.

GAI also conducted a Phase I archaeological survey of the proposed project. Background research revealed no previously-recorded archaeological sites within or immediately adjacent to any of the alternatives. However, historical maps indicate a Railroad previously ran through the east end of one of the alternatives, including a small railroad station along its northeast edge. Only an earthen platform for the station and remnants of the railroad bed are extant; no foundations, rails, or ties are remaining in the vicinity.

A total of 148 architectural and historical resources were also identified including the Downtown Historic District and the Downtown Residential Historic District. Of the other 146 recorded resources, 54 were previously recorded and 92 were newly recorded. Two newly-recorded resources were recommended as potentially contributing to the Downtown Residential Historic District. Despite structural deterioration, the Arch Bridge retains sufficient integrity to remain National Register of Historic Places (NRHP) eligible under Criterion C as a contributing resource to the Downtown Residential Historic District.

A Criteria of Effects Report was completed to assess potential effects the preferred alternative might impose on aboveground resources within the APE. Based on the nature and location of the new bridge, it was recommended that there would be no effects to historic aboveground resources. The West Virginia Department of Arts, Culture, and History concurred with this recommendation. Cultural resources work was completed in support of a Categorical Exclusion Evaluation.

Impoundment Design

Impoundment Dam Engineering Services

Virginia

Project Team:
GAI Consultants

Services:
Geotechnical Investigations

EAP Preparation

Operation & Maintenance Plan

Hydrogeologic Studies

Dewatering

Wastewater Treatment Support

Permit Application Preparation

CQA Work

Construction Package Preparation

Groundwater Monitoring

Dam Alteration Permit

Industrial & Construction NPDES Permitting

USACE Wetland Permitting

Cultural Resources Surveys and Clearances

Threatened & Endangered Species Surveys and Permitting

Client:
Confidential Energy Client

Completion Date:
Ongoing

Project Management:
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Key Personnel:
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Mary Beth Berkes, PE, MS

Keith Schoon, PE, MS

Ed Mayhood

GAI has provided long-term engineering assistance for this Coal Combustion Residuals (CCR) solid waste impoundment classified as a dam by the DCR. GAI performed preliminary design and permitting services for this confidential impoundment closure, including a preliminary dam alteration permit application for submission to the DCR to permit the modification of the dam. The dam alteration permit application included design plans, technical specifications, and geotechnical and H&H calculations required for the impoundment closure. Our analyses also included the design of spillway modifications/replacements to address changes in hazard classification.

GAI also incorporated the 2015 Virginia PMP Study and Evaluation Tool and updated inundation mapping and the dam's EAP to reflect revisions in the PMP values. We also prepared the Operation and Maintenance Plan and prepared the reports required by the US EPA's CCR Rule.

Impoundment Design and Assessment Project

Western Pennsylvania

Project Team:
GAI Consultants

Services:
Designed Dam Embankment and Provided Construction Monitoring Services (1973-1976).

Conducted Bi-annual Dam Embankment Inspection Monitoring Services (1976 – current).

Provided Services for Long-term CCR Waste Management and Dam Embankment Stability.

Designed and Provided Construction Monitoring Services for a Labyrinth Emergency Spillway to Accommodate a New CCR Waste Disposal Practice.

Designed and Provided Construction Monitoring Services for a Secondary Spillway and Wastewater Discharge Facility. The Secondary Spillway is an 18-inch nominal diameter, High Density Polyethylene (HDPE) Pipe Penetrating the Right Abutment (a distance of approximately 475 feet).

Horizontal Directional Drilling (HDD) Equipment was used to make the Initial Right Abutment Penetration.

Client:
Confidential Energy Client

Project Management:
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Key Personnel:
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Keith Schoon, PE, MS

Ed Mayhood

This 420' high x 3,000' long Confidential Coal Combustion Residual (CCR) impoundment in Pennsylvania, impounds the coal combustion waste from a nearby CCR Power Station, making it one of the largest facilities of its kind in the U.S. GAI designed the impoundment dam in the early 1970s and has been the engineer of record ever since.

GAI has provided engineering services to assess the physical properties of the impounded coal combustion waste though numerous drilling and waste sampling and testing programs, designed facility upgrades to improve impoundment operations, installed instrumentation in the dam embankment to monitor performance, and assisted our client in planning for long-term coal combustion waste management. In addition to improving stormwater management for the impoundment, GAI's engineering services have helped extend the life of the disposal facility for an additional 30 years beyond the original anticipated life cycle.

APPENDIX A - GAI ABANDONED MINE LANDS PROJECTS
WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION

Title: **Belle (Sneed) Drainage Project**
Location: Kanawha County, WV
Tasks: The scope of work includes potentially three mine portal closures and to develop plans for drainage conveyance (channels, culverts, and underdrains) away from residential structures. Construction plans and technical specifications are being developed.

Title: **Duck Creek (Jenkins) Landslide**
Location: Harrison County, WV
Tasks: The scope of work involves the design of stabilization measures for the slide and design of seepage and stormwater drainage controls. Construction plans and technical specifications were developed.

Title: **Wolfpen (McBurney) Landslide**
Location: Kanawha County, WV
Tasks: The scope of work involves stabilizing a slope, providing seals for collapsed portals, and providing controlled drainage. Construction plans and technical specifications were developed.

Title: **Latrobe (Gibson) Landslide Emergency Project**
Location: Logan County, WV
Tasks: The scope of work involved emergency evaluation and investigation to develop alternatives to reduce slopes, eliminate instability, and provide for controlled drainage. Once an alternative was selected, construction plans and specifications were developed.

Title: **Charleston (Ratcliffe) Landslide**
Location: Kanawha County, WV
Tasks: The project included subsurface investigation; research of mine mapping; and determination if the slide was due to mining.

Title: **Mulberry Fork (Stover) Landslide**
Location: Fayette County, WV
Tasks: The project included subsurface investigation and design of corrective measures for a landslide.

Title: **Courtright Highwall**
Location: Bridgeport, WV
Tasks: The project included a subsurface investigation to determine extent of landslide and whether mining related, field surveying to establish topographic mapping and control, and subsequent design of landslide repair alternatives. Design ultimately selected included a reinforced slope using stabilizing grid. Landslide contained 400,000 cubic yards of material.

Title: **Belle (Malcolm) Landslide**
Location: Belle, WV
Tasks: Landslide stabilization including excavation of slide mass, sealing of several mine entries, and drainage controls. Project included drilling, sampling, and piezometer installation and monitoring to develop project plans and specifications.

Title: **Williamson (Elias) Landslide - Emergency**
Location: Williamson, WV
Tasks: Subsurface investigation and determination of whether or not a landslide threatening one home was mining related with subsequent development of plans for a retaining wallwere conducted.

Title: **Kitchen/Gibson Landslide - Emergency**
Location: Boone County, WV
Tasks: Subsurface investigation and determination of whether or not a landslide threatening four homes was mining related were conducted.

Title: **Duck Creek Landslide**
Location: Gilmer County, WV
Tasks: The project included subsurface investigation, development of construction specifications and drawings, and construction monitoring for remedial work on a landslide resulting from uncompacted strip bench spoils.

Title: **Ven's Run Maintenance Project**
Location: Harrison, County, WV
Tasks: The scope of work involves stabilizing the slopes and provide for controlled drainage. It is GAI's initial approach to the abatement of the landslide is to provide a proposed reclamation plan that will grade the slide in place as much as practical and not conduct a total removal of material.

Title: **Oldfield Branch (Hall) Drainage**
Location: Mingo County, WV
Tasks: The scope of work involved providing mine seals or bat gates for four mine entries, landslide mitigation with a retaining wall, and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit and COE 404 permit.

Title: **Laurel Point Strip**
Location: Monongalia County, WV
Tasks: The project consisted of 2 sites. The scope of work involved regrading and soil covering refuse pile, constructing access roads, providing streambank stabilization, sealing the mine portal(s), backfilling highwalls, landslide reclamation, providing proper drainage control measures and revegetating the areas. Construction plans and technical specifications were developed. We also prepared and obtained a Stormwater NPDES Permit and WVDOH permits.

Title: **Mingo County PSD Feasibility Study (ID#405)**
Location: Mingo County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing of the previous water system' supplies; researching water quality records; designing and costing remedial measures; and summarizing the findings in a report

Title: **Amigo Portals**
Location: Raleigh County, WV
Tasks: The scope of work involved providing closure of 19 mine portals with bat gates or mine seals, covering exposed refuse, providing stream realignment and streambank protection, and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit and COE 404 permit.

Title: **Larry Frederick Highwall & Refuse**
Location: Harrison County, WV
Tasks: The scope of work involved providing closure of three mine portals mine seals, regrading and reseeding an exposed refuse, revegetation of a highwall bench, and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit.

Title: **Eastern Wyoming County PSD Feasibility Study (ID#401)**
Location: Wyoming County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Raleigh County PSD Feasibility Study (ID#397)**
Location: Raleigh County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Wheatley Branch (Luthy) Portals**
Location: Logan County, WV
Tasks: The scope of work involved several locations of abandoned trash piles, access road construction, 29 mine seals, and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit, WVDOH MM-109 permits and a non-reporting nationwide COE 404 permit.

Title: **Webster County Commission Diana Area Feasibility Study (ID#383)**
Location: Webster County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Cherokee Complex**
Location: McDowell County, WV
Tasks: The scope of work involved providing regrading and soil covering of the refuse pile, providing natural stream restoration and streambank protection, structure demolition, and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit and COE 404 permit.

Title: **Reynoldsville Refuse**
Location: Harrison County, WV
Tasks: The project consisted of 11 sites. The scope of work involved providing regrading and soil covering refuse piles, construct access roads, provide streambank stabilization, sealing mine portal(s), bat gates, demolition of mining structures, filling of vertical shafts, regrade sink hole areas, provide proper drainage control measures, and revegetate the areas. Construction plans and technical specifications were developed. We also prepared and obtained a Stormwater NPDES Permit and WVDOH permits.

Title: **Earling Refuse Pile**
Location: Logan County, WV
Tasks: The scope of work included regarding the refuse pile, provide streambank stabilization, stream restoration, seal the mine portal(s), bat gates, and provide proper drainage control measures. Construction plans and technical specifications were developed. We also prepared and obtained a Stormwater NPDES Permit.

Title: **Erbacon CR9 Webster County WL Feasibility Study (ID#376)**
Location: Webster County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Kanawha Rambling Hills Water Study**
Location: Kanawha County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Davis Creek Water Study**
Location: Kanawha County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Coalburg Water Study**
Location: Kanawha County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Wallace 353 Water Study**
Location: Harrison and Wetzel Counties, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Wallace 354 Water Study**
Location: Harrison County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Greystone Mine Drainage**
Location: County, WV
Tasks: The scope of work involves providing seals for the collapsed portals, backfilling the highwalls, reclamation of the refuse pile, and providing proper controlled drainage including natural stream design. Construction plans and technical specifications were developed.

Title: **Route 60 Drainage**
Location: Fayette County, WV
Tasks: The scope of work involves providing seals for the collapsed portals, design of controlled drainage, and design of a pneumatic concrete wall for a rock highwall. Construction plans and technical specifications were developed.

Title: **Lynch Run Highwall #6**
Location: Gilmer County, WV
Tasks: The scope of work involves providing seals for the collapsed portals, backfilling the highwalls, reclamation of the refuse pile, and providing proper controlled drainage including natural stream design. Construction plans and technical specifications were developed.

Title: **Mallory Refuse Pile**
Location: Logan County, WV
Tasks: The scope of work involves regarding the refuse pile, sealing the mine portal(s), and design of drainage control measures. Construction plans and technical specifications were developed.

Title: **Heizer Creek (Lett-Zitselberger) Drainage**
Location: Putnam County, WV
Tasks: The scope of work involves stabilizing a slope, providing seals for collapsed portals, and providing controlled drainage. Construction plans and technical specifications were developed.

Title: **Hominy Creek Area Waterline Extension Feasibility Study**
Location: Nicholas County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Logan (Marcum) Drainage Emergency Project**
Location: Logan County, WV
Tasks: The scope of work involves emergency evaluation and investigation to develop a method to collect and discharge the seepage from the coal seam and conveyance to a downstream drainage system. Construction plans and specifications were developed.

Title: **Bud/Alpoca Waterline Extension Feasibility Study**
Location: Wyoming County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Nuriva/Maben Waterline Extension Feasibility Study**
Location: Wyoming County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Herndon Heights Waterline Extension Feasibility Study**
Location: Wyoming County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in a report.

Title: **Handley/Upper Creek Drainage Project**
Location: Kanawha County, WV
Tasks: The reclamation plan included dewatering the underground impoundment(s) and creating diversion ditches to redirect the drainage around structures to the nearby stream. Regrading the areas behind the retaining wall, revegetating, and providing proper drainage for all disturbed areas is also included in the plan.

Title: **War Waterline Extension Feasibility Study**
Location: McDowell County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Clark's Gap Waterline Extension Feasibility Study**
Location: Mercer and Wyoming Counties, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **War (Dash) Impoundment**
Location: McDowell County, WV
Tasks: The scope of work included providing aerial mapping and ground survey for verification of two sites consisting of a small impoundment, several mine portals, and coal refuse disposal. In addition, stability analyses were performed on various scenarios for the elimination of the impoundment including subsurface investigation.

Title: **Whites Run Highwall and Portal**
Location: Randolph County, WV
Tasks: The scope of work consist of preparing construction documents for the reclamation of 6,000 linear feet of highwall, three deep mine portals, a coal refuse spoil area, and treatment of acid mine drainage (AMD). The treatment of the AMD will utilize passive treatment techniques. The project also includes re-establishment of a stream by natural stream techniques.

Title: **Helen Portals**
Location: Raleigh County, WV
Tasks: The scope of work included the preparation of construction documents for four sites, consisting of abandoned mine portals, unstable refuse piles, small impoundment, and demolition of a mining related structure. The project also included re-establishing a stream by natural stream techniques.

Title: **Ned's Branch Impoundment (Phase II)**
Location: Mingo County, WV
Tasks: The scope of work included this preparation of construction documents for reclamation of the failed impoundment. The scope of work included regrading of refuse, eliminating impoundment capability, sealing of mine portals, stream restoration, highway relocation and construction management services for the above activities.

Title: **Bearwallow Branch Refuse Pile**
Location: McDowell County, WV
Tasks: The scope of work included the preparation of construction documents for reclamation of seven sites. The various sites consist of unstable refuse piles, abandoned mine portals, small impoundments, and miscellaneous structures.

Title: **Community of Preston - State Route 72 Waterline**
Location: Preston County, WV
Tasks: The scope of work included the preparation of construction documents for a water transmission line. The total length of waterline is approximately 1.1 miles.

Title: **Anchor Road Waterpumping, Storage and Distribution Feasibility Study**
Location: Logan County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Standard, Paint Creek, Collinsdale Waterline Extension Feasibility Study**
Location: Kanawha County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **McAlpin Eroding Dump - Phase II**
Location: Raleigh County, WV
Tasks: The scope of work included the preparation of construction documents for eleven sites. The sites consisted of ten coal refuse piles (one of which is burning), numerous mine openings (both collapsed and open), old mine buildings, possible AMD, and various mine related debris.

Title: **McAlpin Eroding Dump - Phase I**
Location: Raleigh County, WV
Tasks: The scope of work included the preparation of construction documents for six sites. The sites consisted of six coal refuse piles, numerous mine openings (both collapsed and open), old mine buildings, possible AMD, and various mine related debris.

Title: **Kingwood 52/6 Water Supply Extension**
Location: Preston County, WV
Tasks: The scope of work included the preparation of construction documents for a water transmission line. Included in the distribution system are a 96,000 gallon water storage and a booster pump station. The total length of waterline is approximately 13 miles.

Title: **Micajah Ridge - Herndon Heights/Itman Waterline Extension Feasibility Study**
Location: Wyoming County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Water Feasibility Study, Glen Rogers Study Area**
Location: Wyoming County, WV

Tasks: Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Rt. 20 / Gould Community Waterline Extension Feasibility Study**
Location: Upshur County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Water Feasibility Study, Elkins/Buckhannon Study Area**
Location: Upshur County, WV
Tasks: Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Laurel Creek Subdivision Subsidence**
Location: Raleigh County, WV
Tasks: Preparation of construction documents for the Laurel Creek Subdivision Subsidence project in Beckley, WV. Project involved subsurface investigation (including borehole camera work); sampling of mine water; injection plan layout for grouting under over 40 residences; surface water drainage structure, preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings.

Title: **Superior (PocaLand) Complex**
Location: McDowell County, WV
Tasks: The assessment included a site reconnaissance, asbestos observations and sample analysis, lead-based paint observations and analysis, and limited surficial soil sample analysis. The assessment was concluded in a report to aid in evaluating the existing subsurface soil quality in the area to better understand the costs involved during reclamation efforts.

Title: **Washington Heights to Jeffrey Waterline Extension**
Location: Boone County, WV
Tasks: The project involved a technical review plans and specifications presented by the WVAWC as part of the Boone County Public Service District: Regional Water Supply System. The plans included a total of seven contracts. The scope of work was to identify areas of the contracts that were within project limits set by a Phase II Water Feasibility Study conducted for the WVDEP and to determine the amount of the contract costs that were the responsibility of the WVDEP. Included were field reconnaissance, review of plans, hydraulic calculations, and cost estimating.

Title: **Water Feasibility Study, Gaymont, Edmond, and Winona Study Area**
Location: Fayette County, WV
Tasks: Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Water Feasibility Study, Hominy Creek Study Area**
Location: Nicholas County, WV
Tasks: Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Elk Creek / Verner Waterline Extension Feasibility Study**
Location: Logan County, WV
Tasks: The scope of work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in areport.

Title: **Orlando Mining Facility**
Location: Gilmer County, WV
Tasks: The scope of work included preparation of a report identifying the results from an investigation/evaluation of the facilities and equipment at the site. The investigation included determining the value, usefulness and/or condition of the facilities and equipment.

Title: **Scotch Hill / Miller Hill Water Supply Extension**
Location: Preston County, WV
Tasks: The scope of work included the preparation of construction documents for a water transmission line beginning at the existing hydropneumatic booster station. Included in the distribution system is 96,000 gallon water storage. The total length of waterline is approximately 7.5 miles.

Title: **Camp Run AMD**
Location: Barbour County, WV
Tasks: The scope of work included the preparation of construction documents for two sites. The sites consisted of ten to fifteen mine portals and mine drainage seep locations, one pond (to be drained), concrete tramway abutments (and debris), coal refuse, and various areas of saturated soil from mine drainage (one of which is sliding).

Title: **Mahan Tipple and Refuse Maintenance**
Location: Fayette County, WV
Tasks: The scope of work included the preparation of construction documents for the repair of a sliding reclaimed coal refuse pile. The project consisted of installing a rock toe buttress and drainage channels

Title: **Johnsons Knob**
Location: Fayette County, WV
Tasks: The scope of work included the preparation of construction documents for four sites. The sites consisted of five coal refuse piles totaling approximately twenty acres, numerous mine openings (consisting of auger hole and portals, both collapsed and open), six old mine buildings, possible AMD, and various mine related debris (including two old conveyors and a collapsed tipple).

Title: **Carolina Refuse**
Location: Marion County, WV
Tasks: The project consisted of two sites. The sites consisted of a refuse pile totaling approximately three acres, various non-mine related debris, and two concrete mine shafts with some various debris.

Title: **Omega Mine Complex Project**
Location: Monongalia County, WV
Tasks: The project involved writing a final report to the Electric Power Research Institute to include a comparison of the pre- and post-injection water quality data, the results of a post-construction benthic survey, and the results of an analysis of data from injection operations.

Title: **Omega Mine Complex Completion**
Location: Monongalia County, WV
Tasks: The scope of work included the preparation of construction documents for a booster station upgrade as part of the Omega Mine Complex project. Hydraulic analyses were performed, new pumps were selected, and a demonstration was made that the new pumps had higher efficiencies than the old pumps. Construction documents for the booster station upgrade and pressure reducing assembly were prepared.

Title: **Hutchinson Subsidence**
Location: Fairmont, WV
Tasks: Preparation of construction documents for the Hutchinson Subsidence project in Fairmont, WV. Project involved subsurface investigation (including borehole camera work); sampling of mine water; injection plan layout for grouting under three residences; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings.

Title: **Fairmont (Grandstaff) Subsidence**
Location: Fairmont, WV
Tasks: Evaluation of potential subsidence effects for the Grandstaff Subsidence project in Fairmont, WV. Project involved subsurface investigation (including borehole camera work); sampling of mine water; and preparation of a report describing the findings of the above investigations.

Title: **City of Summersville (Rt. 39)**
Location: Nicholas County, WV
Tasks: The project included the review of another consultants water feasibility study report and determination if the findings of the report were accurate.

Title: **Reynoldsville, Wallace, and Clarksburg Water Supply Extension Project**
Location: Harrison County, WV
Tasks: The project included a feasibility/rate analysis, design of 9,400 feet of 8-inch water line, 33,000 feet of 6-inch water line, 12,200 feet of two-inch water line, a 96,000 gallon (nominal) water storage tank, and other appurtenances, selection, surveying, and geotechnical investigation of a water storage tank site, and preparation of construction documents, regulatory permit applications, and an engineer’s report.

Title: **Mill Creek Regional Water Supply Extension Project**
Location: Logan County, WV
Tasks: Preparation of construction documents for the construction of water transmission lines, a water distribution system, two water storage tanks, a booster station, two hydropneumatic tanks, and a water treatment plant. The total length of water line to be constructed was approximately 34 miles.

Title: **Majesty Mine Complex**
Location: Barbour County, WV
Tasks: Preparation of construction documents for the reclamation of the Majesty Mine Complex.
The Majesty Mine Complex was an abandoned mine site which included old mine structures, open mine portals, unreclaimed refuse piles and an extensive highwall, existing wetlands and ponds, and numerous seeps producing acid mine drainage (AMD).

Title: **Phase II Water Feasibility Study, Washington Heights to Jeffrey Study Area**
Location: Boone County, WV
Tasks: Phase II water feasibility study for private water supplies in the Washington Heights to Jeffrey Study Area in Boone County, WV. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in a report. Work was completed on a “fast track” schedule.

Title: **Evaluation of Construction Documents, Gauley River Water Line Extension**
Location: Fayette and Nicholas Counties, WV
Tasks: Evaluation of construction documents for the Gauley River Water Line Extension, to be funded by AML. Evaluation included a review of technical specifications and drawings; evaluation of hydraulics; completion of letter summarizing the evaluation; and meetings to discuss the evaluation.

Title: **Evaluation of Construction Documents, Heizer/Manila Creek Water Line Extension**
Location: Putnam County, WV
Tasks: Evaluation of construction documents for the Heizer/Manila Creek Water Line Extension, to be funded by AML. Evaluation included a review of technical specifications and drawings; evaluation of hydraulics; completion of letter summarizing the evaluation; and meetings to discuss the evaluation.

Title: **Owings Mine Complex**
Location: Harrison County, WV
Tasks: (1) Evaluation of water quality and potential passive AMD treatment system design at the Owings Mine Complex Site. Project included identification of monitoring points (streams and AMD discharges); sampling and analysis of monitoring points for a three-month period; preparation of a report summarizing the findings; and conceptual design of passive AMD treatment system including costs.

(2) Preparation of construction documents including subsurface investigation; surveying; refuse processing evaluation; grading and drainage design for four refuse piles and various other refuse areas; design of seals for eighteen mine portals; and preparation of technical specifications, drawings, and engineer's cost estimate.

Title: **Omega Mine Complex**
Location: Monongalia County, WV
Tasks: Preparation of construction documents for the Omega Mine Complex project in Monongalia County, WV. The project involved the injection of coal combustion byproduct grouts into mine workings to help alleviate the generation of AMD. Work included subsurface investigation; surveying; grout mix evaluation; acid-base accounting analysis of overburden and coal; and preparation of drawings, technical specifications, and engineer's cost estimate.

Title: **Mill Creek - Isom Community**
Location: Logan County, WV
Tasks: Design of water system to service approximately 800 residents of the Mill Creek-Isom Community in Logan County, WV. Work included sizing of water treatment plant, four water tanks, four booster stations, one pressure reducing valve, and approximately 23 miles of water line. Construction cost was estimated at approximately $5,500,000.

Title: **Phase II Water Feasibility Study, Weaver-Junior Study Area**
Location: Randolph and Upshur Counties, WV
Tasks: Phase II water feasibility study for private water supplies in the Weaver-Junior Study Area in Randolph and Upshur Counties, WV. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Phase II Water Feasibility Study, Reynoldsville, Wallace, and Clarksburg Study Area**
Location: Harrison County, WV
Tasks: Phase II water feasibility study for private water supplies in the Reynoldsville, Wallace, and Clarksburg Study Area in Harrison County, WV. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Mainella Subsidence**
Location: Marion County, WV
Tasks: Preparation of construction documents for the Mainella Subsidence project in Fairmont, WV. Project involved subsurface investigation (including borehole camera work); sampling of mine water; injection plan layout for grouting under three residences; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings. Approximately 15 injection holes were proposed at an estimated construction cost of approximately $138,000.

Title: **Glen Morgan Subsidence**
Location: Raleigh County, WV
Tasks: Preparation of construction documents for the Glen Morgan Subsidence project near Beckley, WV. Project included subsurface investigation (including borehole camera work); base mapping development; sampling of mine water; injection plan layout for grouting under one residence; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings. Estimated construction cost was approximately $164,000.

Title: **Harris AMD**
Location: Harrison County, WV
Tasks: Preparation of construction documents for the Harris AMD site in Harrison County, WV. Project included subsurface investigation; surveying; sampling of mine discharges; design of channels, wet seals, and drain pipes; preparation of technical specifications, drawings and engineer's cost estimate; and participation in pre-bid and pre- construction meetings. Bid construction cost was approximately $65,000.

Title: **Lefthand Fork (See) Burning Refuse**
Location: Logan County, WV
Tasks: Preparation of construction documents for Lefthand Fork (See) Burning Refuse project. Project included subsurface investigation including temperature probe readings; surveying; refuse processing evaluation; grading and drainage design for regrading of refuse pile; delineation of burning refuse areas; design of excess material disposal site; completion of IBR for relocating existing bonded haul road; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings. Bid construction cost was approximately $940,000.

Title: **Summerlee Refuse - Post Construction Water Quality**
Location: Fayette County, WV
Tasks: Water sample collection, analysis, and evaluation at the reclaimed Summerlee Refuse site. Findings were summarized in a report.

Title: **Cow Creek - Sarah Ann Water Supply Extension Project**
Location: Logan County, WV
Tasks: Preparation of construction documents for the Cow Creek - Sarah Ann Water Supply Extension project in Logan County, WV. Project included subsurface investigation; design of three water tanks, three booster stations, one master meter assembly, and approximately 19 miles of waterline; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings. Bid construction cost was approximately $4,800,000.

Title: **Godby Branch Water Supply Extension**
Location: Logan County, WV
Tasks: Preparation of construction documents for the Godby Branch Water Supply Extension project. Project included subsurface investigation; surveying; design of water tank, booster station, and approximately 2.5 miles of water line; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings. Bid construction cost was approximately $680,000.

Title: **Phase II Water Feasibility Study, New Haven Study Area**
Location: Fayette County, WV
Tasks: Phase II water feasibility study for private water supplies in the New Haven Study Area in Fayette County, WV. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in a report. Conceptual design of water system included sizing a water treatment plant, one booster station, five water tanks, and approximately 87 miles of water line. Estimated construction cost was approximately $13,800,000.

Title: **Phase II Water Feasibility Study, Gauley River Study Area**
Location: Fayette and Nicholas Counties, WV
Tasks: Phase II water feasibility study for private water supplies in the Gauley River Study Area. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the investigation in a report.

Title: **Phase II Water Feasibility Study, Heizer and Manila Creek Community**
Location: Putnam County, WV
Tasks: Phase II water feasibility study for private water supplies in the Heizer and Manila Creek Community in Putnam County, WV. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in a report.

Title: **Phase I Water Feasibility Study, Reynoldsville, Wallace, & Clarksburg Study Area**
Location: Harrison County, WV
Tasks: Phase I water feasibility study of the Reynoldsville, Wallace, & Clarksburg Study Area in Harrison County, WV to evaluate the potential for pre-1977 mining activity to have degraded the water supplies of residents. Work included interviews, record searches, field reconnaissance, and preparation of remedial action cost estimates. A report summarizing the findings was submitted.

Title: **Phase I Water Feasibility Study, Weaver-Junior Study Area**
Location: Randolph and Upshur Counties, WV
Tasks: Phase I water feasibility study of the Weaver-Junior Study Area in Randolph and Upshur Counties, WV to evaluate the potential for pre-1977 mining activity to have degraded the water supplies of residents. Work included interviews, record searches, field reconnaissance, and preparation of remedial action cost estimates. A report summarizing the findings was submitted.

Title: **Phase I Water Feasibility Study, Matheny Hill Study Area**
Location: Harrison County, WV
Tasks: Phase I water feasibility study of the Matheny Hill Study Area in Harrison County, WV to evaluate the potential for pre-1977 mining activity to have degraded the water supplies of residents. Work included interviews, record searches, field reconnaissance, and preparation of remedial action cost estimates. A report summarizing the findings was submitted.

Title: **Duncan Hill Subsidence No. 2**
Location: Harrison County, WV
Tasks: Completed subsidence evaluation investigation at the Duncan Hill Subsidence No. 2 project site in Clarksburg, WV. Work included subsurface investigation; mapping development; surveying; records review; water sampling; and preparation of a report summarizing the findings. The report did not recommend stabilization for the structures in the project area, due to a lack of evidence that subsidence was causing problems.

Title: **Urso Subsidence**
Location: Fairmont, WV
Tasks: Field reconnaissance, resident interviewers, videotape surveys of existing conditions, subsurface investigation, surveying, and subsequent evaluation to determine if mine subsidence was affecting structures within a several block area of Fairmont. Ultimately, stabilization program was limited to 5.4 acre area with approximately 28 residences and businesses. Construction documents, including drawings, technical specifications, and engineer's cost estimate were prepared. Proposed construction included approximately 140 injection holes and 18,000 cubic yards of injection material. Construction cost was estimated at approximately $1,200,000.

Title: **Phase I Water Feasibility Studies**
Location: Brooke County, along Gauley River in Fayette County & Nicholas Counties, and New Haven area (around Hico) in Fayette County, WV.
Tasks: Preliminary investigation of three separate communities to evaluate the possibility that pre-1977 mining activity degraded water supplies. The investigation included a review of mining records, existing water quality data, and conductance of resident interviews to assess possible impacts. Separate reports were prepared for each community, documenting findings and providing a cost estimate for extending public water supply systems.

Title: **Phase II Water Feasibility Study, Mill Creek Study Area**
Location: Boone, Lincoln, and Logan Counties, WV
Tasks: Phase II water feasibility study for private water supplies in the Boone County Community, Lincoln County Community, and Logan County Community all encompassed in the Mill Creek Study Area. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in separate reports for each community. Estimated construction cost for extending a public water supply to residents of the Mill Creek Study Area was approximately $15,400,000 and included one water treatment plant, one booster station, seven water storage tanks, and approximately 40 miles of water line.

Title: **Phase II Water Feasibility Study, Godby Branch Community**
Location: Logan County, WV
Tasks: Phase II water feasibility study for private water supplies in the Godby Branch Community in Logan County, WV. Work included interviewing local residents and government officials; collecting and analyzing surface and private water supply samples; researching water quality records; designing and costing remedial measures; calculating the percentage of wells that had been degraded by mining activity; and summarizing the findings in a report.

Title: **Madison Street/Fairview Route 218 Portals**
Location: Marion County, WV
Tasks: Preparation of construction documents for the Madison Street/Fairview Route 218 Portals project. Work included subsurface investigation; surveying; design of wet mine seals and associated drains at multiple sites; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings.

Title: **Summerlee Refuse Project**
Location: Fayette County, WV
Tasks: Preparation of construction documents for the Summerlee Refuse pile project. Project included subsurface investigation; surveying; water quality sampling; grading and drainage design for regrading and revegetation of 60 acre refuse pile, two impoundments, and two ponds; preparation of technical specifications, drawings, and engineer's cost estimate; and participation in pre-bid and pre-construction meetings.

Title: **Putnam County Phase I Water Studies**
Location: Two communities in Putnam County, WV
Tasks: Preliminary investigation of the Manila Creek and Heizer Creek areas of Putnam County to determine the possibility of pre-1977 mining activity degrading water supplies. Study included review of historical mining records, geological data, and resident interviews to assess possible impacts. Report prepared documenting findings and a cost estimate for extending public water supply system.

Title: **Boone County Phase I Water Studies**
Location: Various communities in Boone County, WV
Tasks: Preliminary investigation of the Greenview/Big Branch, Ramage/Six Mile Creek, Secoal/Jeffrey/Obes Branch, Hewett Creek/Missouri Fork, and Meadowfork communities of Boone County to determine the possibility of pre-1977 mining activity degrading water supplies. Study included review of historical mining records, geological data, and resident interviews to assess possible impacts. Reports prepared documenting findings and cost estimates for extending public water supply systems.

Title: **Duncan Hill Subsidence**
Location: Clarksburg, WV
Tasks: Field reconnaissance, resident interviews, videotape surveys of existing conditions, subsurface investigation, borehole video camera surveys, and surveying to determine whether subsidence was affecting numerous homes, water tank, and YMCA over a 16 acre area. Development of report documenting that damages to water tank and YMCA were not subsidence related. Preparation of stabilization plan including plans, specifications, etc. for residential area.

Title: **Phase II Logan Water Feasibility Study**
Location: Logan County, WV
Tasks: Investigation to determine the percentage of residents in the Cow Creek, Crooked Creek and Upper Rum Creek communities whose ground water supplies had been degraded by pre-1977 mining activity. Field reconnaissance, mine map and mine permit records search, interviews, water sampling and analysis, and classification via piper diagrams were conducted.

Title: **Cora Mine Drainage No. II**
Location: Logan County, WV
Tasks: Mine drainage abatement project included drilling and water analysis with subsequent design of several mine seals with piping and channels to convey flow to the receiving stream. Project included boring and jacking pipeline under railroad.

Title: **Covey Creek Mine**
Location: Logan County, WV
Tasks: Field reconnaissance, historical records review, and subsurface investigation to determine extent of mine fire and to develop options for remediation.

Title: **Logan Phase I Water Study**
Location: Logan County, WV
Tasks: Preliminary investigation of the Clothier, Cow Creek, Crooked Creek, Godby Branch, Godby Heights, Upper Rum Creek, and Whitman Creek/Holden communities to determine the possibility of pre-1977 mining activity degrading the water supplies of the communities. Field reconnaissance, interviews, and mining and water quality record searches were conducted, and a remedial cost estimate was provided with reports summarizing the findings for each community.

Title: **Vivian Refuse Pile**
Location: Vivian, WV
Tasks: Subsurface investigation, surveying, and design for reclamation of a large coal refuse pile and two mine entries. Plans, specifications, cost estimate, coal refuse reprocessing evaluation, and supporting documents for regrading over 150,000 cubic yards of refuse, surface water control, mine seals, and riprap toe protection were completed.

Title: **Kimball Refuse Piles**
Location: Kimball, WV
Tasks: Subsurface investigation, surveying and design for reclamation of three coal refuse piles and six mine entries. Design included replacement of a water well and related supply piping for the town of Kimball. Completed preparation of plans, specifications, cost estimate, coal refuse reprocessing report, WV Department of Health permit for new well, and other supporting documents for reclaiming this large site with over ½ million cubic yards of regrading.

Title: **Hampden (Smith) Bridge**
Location: Mingo County, WV
Tasks: Design of metal arch culvert to replace a bridge to allow access to a landslide repair project. Development of plans and specifications were on a fast-track schedule.

Title: **Bear Run Refuse**
Location: Gilmer County, WV
Tasks: Field reconnaissance to establish project limits, develop reclamation options, and collect water quality information to design a wetlands reclamation project. Subsurface investigation, surveying, and development of aerial mapping for 160 acres were conducted. Plans, specifications, cost estimate, reprocessing evaluation and report, and permit application assistance to develop reclamation plan for 13 former coal refuse disposal ponds/impoundments and three refuse piles were completed. Plan included developing and enhancing wetlands.

Title: **Beaver Creek Waterline Extension**
Location: Barbour and Randolph Counties, WV
Tasks: The project included design of a 1.5 mile, 6-inch diameter water line extension including fire hydrants, stream crossings, and service to 13 residents. Preparation of plans, specifications, cost estimate, and supporting documents were completed.

Title: **Garrison Complex**
Location: Garrison, Boone County, WV
Tasks: Subsurface investigation, surveying, and design for the removal of a railroad embankment posing a water impounding hazard were conducted. Project also included several mine entries and surface water runoff control channels. Plans, specifications, cost estimate, and supporting documents were prepared.

Title: **Cassity Fork Water Supply Extension**
Location: Randolph County, WV
Tasks: The project consisted of a water study to document existing water quality and impacts due to mining, subsurface investigations, surveying, and design of an eight-mile waterline extension including booster station, reservoir, pressure reducing valves, and provision for fire flow. Preparation of plans, specifications, cost estimate and supporting documents, and a review of contractor submittals during construction were conducted.

Title: **Beckley (Queen Street) Subsidence**
Location: Beckley, WV
Tasks: Subsurface investigation to determine if mine subsidence was responsible for damages experienced by a home was conducted. Preparation of a report documenting that subsidence was not responsible for the observed damage was completed.

Title: **Jonben (Haga) Subsidence**
Location: Jonben, WV
Tasks: Subsidence control on an emergency basis including sinkhole backfilling and drainage control. Project included drilling to determine the extent of mining and subsidence, field surveying to develop topographic mapping, and development of a backfilling and drainage plan.

Title: **Holden (Padgett) Subsidence**
Location: Whitman Junction, WV
Tasks: The project included subsurface investigation to determine extent of mine workings, development of stabilization plan including drainage channels/pipes, and mine seals. Construction documents were prepared, and participation in pre-bid and pre-construction meetings was completed.

Title: **Minden Mine Fire**
Location: Minden, WV
Tasks: The project included subsurface investigation to determine source and extent of underground fire.

Title: **Doug Gray Subsidence**
Location: Fairmont, WV
Tasks: Subsidence control by injecting grout to fill mine voids. Project included exploratory drilling and sampling including both vertical and angle borings with the subsequent development of a grouting program to support homes and businesses in Fairmont, WV.

Title: **St. John's Road Subsidence**
Location: Brooke County, WV
Tasks: Subsurface investigation and development of specifications and construction drawings for remedial work on mine subsidence affecting 30 acres and 50 homes were conducted.

Title: **High Coal Tipple**
Location: Boone County, WV
Tasks: The project included development of specifications and construction drawings for remedial work on 16 mine portals and an abandoned tipple and its several associated structures.

Title: **Route 19/28 Subsidence**
Location: Harrison County, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings, and topographic mapping for remedial work on mine subsidence affecting a road.

Title: **Omar Refuse Piles**
Location: Logan County, WV
Tasks: The project included subsurface investigation and development of specifications and construction drawings for remedial work on regrading five refuse piles with over 330,000 cubic yards of earthwork, and sealing six mine portals and a large vertical shaft.

Title: **Mt. Hope (Sawyer) Subsidence**
Location: Fayette County, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings, and topographic mapping for remedial work on mine subsidence affecting one home.

Title: **Morgantown Airport Drainage**
Location: Morgantown, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings, and some topographic mapping for remedial work on mine subsidence effecting a day care center and an airport access road, and for closure of four mine portals below the end of a runway.

Title: **Logan Drainage Project**
Location: Logan, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings, and some topographic mapping for remedial work on four mine portals, a mine seep, and 400 feet of abandoned conveyor with its headhouse and loadout platform.

Title: **Huffman Street Subsidence**
Location: Fairmont, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings for remedial work on mine subsidence affecting 20 homes.

Title: **Switzer/Adams/Robinson Drainage**
Location: Logan County, WV
Tasks: The project included subsurface investigation and development of construction specifications, drawings, and topographic mapping for remedial work on three mine portals, including the design of an energy dissipater with associated piping under railroad and state highway.

Title: **Follansbee (Hultsburg) Drainage**
Location: Brooke County, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings for remedial work on acid mine drainage problems.

Title: **Fairmont East Subsidence**
Location: Fairmont, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings for remedial work on mine subsidence affecting 125 homes on 20 acres.

Title: **Fairmont IV**
Location: Fairmont, WV
Tasks: The project included subsurface investigation to determine if subsidence of three homes was related to mining and subsequent development of construction specifications and drawings for remedial work on the subsidence.

Title: **Hawkins AMD**
Location: Harrison County, WV
Tasks: The project included subsurface investigation and development of construction specifications, drawings and topographic mapping for remedial work on acid mine drainage emanating from mine portals following a “blow-out” and causing a large saturated area above five homes.

Title: **Kistler Refuse and Mine Fire Extinguishment Program**
Location: Logan County, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings for extinguishment through grout injection, and subsequent construction monitoring.

Title: **Rebrook Street Drainage**
Location: Clarksburg, WV
Tasks: The project included subsurface investigation and development of construction specifications and drawings for remedial work on acid mine drainage from two mine portals which was effecting a house and its garage, and subsequent construction monitoring.

Title: **Hurricane Fork/Five-Mile Fork Burning Coal Seams**
Location: Kanawha County, WV
Tasks: The project included subsurface investigation and development of costs which would be associated with extinguishment.

Title: **Kingmont Complex Reclamation**
Location: Marion County, WV
Tasks: The project included development of specifications and construction drawings for sealing four mine portals and demolishing a steel river truss and buildings associated with an abandoned deep-mine complex.

Title: **Fairmont No. 2 Subsidence**
Location: Fairmont, WV
Tasks: The project included report with recommendations after a subsurface investigation to determine whether or not subsidence of three homes was mining related, and subsequent development of specifications and construction drawings.

Title: **Green’s Run Highwall and Marrara Spoil Area Reclamation Projects**
Location: Preston County, WV
Tasks: The project included subsurface investigation with test-pits and development of specifications and construction drawings for reclaiming 30 acres of strip mine with three highwalls, six refuse piles, and two access roads.

APPENDIX B

KEY PERSONNEL RESUMES

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Jason Gandee

Engineering Manager

Education

BS, Civil Engineering Technology, 2007, West Virginia University Institute of Technology

Skills

Civil Engineering

Civil Site Design

Stormwater Management

Environmental Compliance

Hydrologic and Hydraulic Design

Drainage and Grading Plans

Erosion and Sediment Control

Floodplain Studies

Certifications / Training

Troxler Nuclear Density Operator, 2001

HEC-RAS Course, National Highway Institute

Industry Experience

GAI Consultants, Inc., 2018-Present

Potesta & Associates, Inc., 2007-2018

Professional Summary

Mr. Gandee specializes in civil engineering design for GAI's Energy Business Unit. Project responsibilities include: civil site design, hydrologic and hydraulic design, grading plans, roadway layout, and stormwater management plans. He has 16 years of experience and develops engineering calculations, prepares project drawings, generates contract documents and specifications, and completes engineering reports. He also has experience with construction oversight and construction management, and site inspections.

Mr. Gandee has experience preparing West Virginia Department of Transportation, Division of Highways (WVDOH) MM-109 occupancy permits; and construction stormwater National Pollutant Discharge Elimination System (NPDES) permits and supporting documents. He has prepared Spill Prevention, Control, and Countermeasure (SPCC) Plans, and is knowledgeable of current erosion and sediment control materials and requirements. Additionally, Mr. Gandee has performed floodplain studies using HEC-RAS to estimate the changes of the floodplain due to construction; projects include: site development adjacent to streams, bridge construction, and culvert installation. Mr. Gandee also has experience with sampling and testing materials, including soils and concrete. Testing included nuclear density testing for compaction of soils, concrete/grout testing, and cylinder fabrications.

Select Professional Experience

- WVDEP Belle (Sneed) Drainage Project, Kanawha County, West Virginia. Project Manager. GAI is providing geotechnical investigations and analyses; designing access for construction and future maintenance access; hydrologic and hydraulic analyses; installation of drainage channels, underdrains, and/or other controls to safely convey water off-site; revegetation of all disturbed areas; and required permitting.
- Project Engineer for over 25 reclamation projects for the West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands. Responsible for site reconnaissance to determine the scope of the project; monitoring subsurface exploration drilling; preliminary and final design drawings; technical specifications; engineer's cost estimate; and conducting pre-bid and pre-construction meetings with contractors. Submitted and obtained NPDES construction stormwater permits and United States Corps of Engineer regional permits for the projects.

- Project Engineer for two WVDEP, Office of Special Reclamation Bond Forfeiture Projects. Responsible for developing construction plans to eliminate highwalls; regrading refuse piles; providing hydrologic and hydraulic design to manage stormwater on the site; designing ponds for active treatment; technical specifications; engineer's cost estimate; and conducting pre-bid and pre-construction meetings with contractors.
- Floodplain Management Projects. Project Engineer. Responsible for data gathering for the projects; estimating the hydrology at the site; performing hydraulic modeling of the watershed for existing and proposed conditions using HEC-RAS to determine the flood elevations and impacts; and report summarization.
- Interstate Widening Project, Confidential, West Virginia. Project Engineer. Responsible for preparing maintenance of traffic plans; geometric layout plans; construction drawings; and signing and marking plans for the project.
- Coal Combustion Residuals (CCR) Rule Compliance Project, West Virginia. Civil Engineering Support. Assisted in the visual inspection of the CCR landfills to identify signs of distress or malfunction. Assisted in the completing the inspection report that discussed changes in geometry of the structure, appearance of an actual or potential structural weakness of the CRR impoundment, and any other changes which may affect the stability or operation of the CCR landfill.
- CCR Compliance Project, West Virginia. Civil Engineering Support. Assisted in the visual inspection of the CCR landfill and impoundment to identify signs of distress or malfunction. Assisted in the completing the inspection report that discussed changes in geometry of the structure, appearance of an actual or potential structural weakness of the CRR impoundment or the impoundment, and any other changes which may affect the stability or operation of the CCR landfill or the impoundment.
- CCR 7-Day Inspections, West Virginia. Civil Engineering Support. Assisted in the visual inspection of the CCR landfills to identify signs of distress or malfunction. Assisted in the completing the inspection report that discussed changes in geometry of the structure, appearance of an actual or potential structural weakness of the CRR impoundment, and any other changes which may affect the stability or operation of the CCR landfill.
- County Park Improvements Project, Confidential, West Virginia. GAI is performing the following services for this project: preliminary design; assistance with funding applications; final design; bidding; services during construction; and construction inspection. Responsible for civil site design which includes utilities, building pad and access road layout.

gai consultants

Charles Straley, PE, PLS, MS

Senior Engineering Manager

Education

MS, Geotechnical Engineering, 1988, University of Akron

BS, Civil Engineering, 1986, University of Akron

Registrations

Professional Engineer (PE): WV, KY, IN, MI, OH, TX, VA,

Professional Licensed Surveyor (PLS): WV

Skills

Subsurface Exploration

Foundation & Embankment Design

Slope Stability & Landslide Engineering

Landfill Planning & Design

Water Feasibility Studies

Acid Mine Drainage

Certifications / Training

Leaders to Watch, GAI Consultants, Inc., 2011

Advanced Project Management Training, GAI Consultants, Inc., 2009

Troxler Certified

40-hour Health and Safety Training

8-hour Supervisor Health and Safety Training

Industry Experience

GAI Consultants, Inc., 1988 - Present

University of Akron, Private Consulting and Testing, 1986-1987

Professional Summary

Mr. Straley specializes in civil engineering with an emphasis in geotechnical engineering, including all aspects of subsurface exploration, laboratory testing, foundation and embankment design, slope stability, material and construction specifications, and construction administration, management and monitoring. He has 37 years of experience specializing in project management and geotechnical engineering services for over 95 West Virginia Department of Environmental Protection (WVDEP) mine reclamation projects throughout West Virginia.

Select Professional Experience

- Belle (Sneed) Drainage Project, West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands and Reclamation (AMLR), Kanawha County, West Virginia. Project Supervisor. GAI is providing geotechnical investigations and analyses; designing access for construction and future maintenance access; hydrologic and hydraulic analyses; installation of drainage channels, underdrains, and/or other controls to safely convey water off-site; revegetation of all disturbed areas; and required permitting.
- Ned's Branch Impoundment Dam, WVDEP, Office of Surface Mine Reclamation and Enforcement, Mingo County, West Virginia. Design of and preparation of construction documents for a 600,000 cubic yard failed coal slurry impoundment dam as an emergency reclamation project. Activities included site grading, subsurface investigation, hydraulics and hydrology analysis, road re-design, mine seals, preparation of drawings and technical specifications, engineering cost estimate and pre-bid meeting presentation.
- Majesty Mine Complex Project, WVDEP, AMLR, Barbour County, West Virginia. Design of a reclamation plan for the Majesty Mine Complex. The project included the design of site drainage along WV Route 16/2 (including channels and culverts), reclamation of two landslide areas along WV Route 16/2, and a soldier (pile and lagging) wall to support a landslide in WV Route 16/2.
- Ven's Run Landslide #2, WVDEP, AMLR, Harrison County, West Virginia. Design of and preparation of construction documents for a previously repaired landslide. Activities included site grading, subsurface investigation, hydraulics and hydrology analysis, road re-design, preparation of drawings and technical specifications, engineering cost estimate and pre-bid meeting presentation.

- Lodestar Energy Valley Fill Landslide, WVDEP, AMLR, Raleigh County, West Virginia. Design of and preparation of construction documents for a landslide above a residence as an emergency project for the WVDEP, Office of Special Reclamation and Lodestar Energy. Activities included: site grading, subsurface investigation, hydraulics and hydrology analysis, collection of mine drainage and mine seals, preparation of drawings and technical specifications, engineering cost estimate and pre-bid meeting presentation.
- Latrobe (Gibson) Landslide, WVDEP, AMLR, Logan County, West Virginia. Design of and preparation of construction documents for a landslide above a residence as an emergency project for the WVDEP, Office of Abandoned Mine Lands. Activities included: site grading, subsurface investigation, hydraulics and hydrology analysis, valley fill design, United States Army Corps of Engineers (USACE) permitting, preparation of drawings and technical specifications, engineering cost estimate and pre-bid meeting presentation.
- Summerlee Refuse Pile Project, WVDEP, AMLR, Fayette County, West Virginia. Designed the regrading and drainage channels for a 75-acre coal refuse pile. Developed specifications for the project that included earthwork, drainage structures and wetland plants. Design included analysis of water quality for determining potential treatment alternatives.
- Tomlinson Run State Park, West Virginia Department of Natural Resources (WVDNR), Hancock County, West Virginia. Abandoned Mine Lands Design, construction monitoring, and construction administration for two lake dredging projects. Activities included subsurface investigation, regulatory approvals, construction drawings, technical specifications, construction troubleshooting, cost estimating, daily reports, and client interaction.
- Lefthand Fork Burning Refuse Project, WVDEP, AMLR, Logan County, West Virginia. Designed the regrading and drainage scheme for a 60-acre coal refuse. The project included the excavation and extinguishment of burning refuse and disposal of excess refuse in a valley fill. Developed specifications for the project. Prepared an application for the WV Public Land Corporation permit and USACE 404 Nationwide Permit. Prepared an Incidental Boundary Revision application to relocate a permitted haul road.
- Kimball Coal Refuse Piles Project, WVDEP, AMLR, Kimball, West Virginia. Performed stability analysis for three existing coal refuse embankments. Designed and evaluated the proposed regrading and geometric changes to the coal refuse embankments. Developed specifications for the project which included a reinforced earth wall and water well replacement. Prepared application for replacement well permit and the USACE 404 Nationwide Permit.
- Owings Mine Complex Project, WVDEP, AMLR, Harrison County, West Virginia. Design of a reclamation plan. Project included surface and subsurface drainage design (including a concrete box culvert crossing of WV County Route 12/4) and preparation of technical specifications (including traffic maintenance and other WVDOH standard specifications), drawings, engineer's cost estimate, and obtaining the USACE permit.
- Duncan Hill Subsidence Project, WVDEP, AMLR, Harrison County, West Virginia. Monitored subsurface exploration, designed and developed specifications for an abandoned mine subsidence project. The project included stabilizing the abandoned mine workings by injecting cement grout and concrete and providing drainage from a portion of the workings. The project included a bore and jack pipe into the mine workings.
- Cora Mine Drainage II Project, WVDEP, AMLR, Logan County, West Virginia. Designed the mine seals and drainage scheme for a series of abandoned mine entries. Developed the specifications which included the mine seals, drainage pipes and appurtenances and a bore and jack pipe.
- Project Manager for a stream relocation project in Grant County, West Virginia. The project involved crossing an existing stream channel over an acid mine drainage channel to a water treatment facility. The design consisted of a combination of relocated channels, spillways, and box culverts.
- Expert witness in identifying the source of an acid mine drainage through a tunnel under a West Virginia Department of Transportation, Division of Highways (WVDOH). Performed a structural inspection of the tunnel to obtain grade release for the mine permit.

- Reclamation Project, Ohio. Project Manager responsible for geotechnical engineering and development of remediation measures for an abandoned mine site in Ohio. The 80-acre site was the largest major acid mine drainage contributor degrading the creek watershed, and contained four acidic strip-pit lakes, an abandoned deep mine, and large areas of toxic mine spoil and mine tailings.
- Completed the geology and hydrogeology sections for a new deep mine permit application in Logan County, West Virginia. Completed stability analysis for various slopes in different portions of the permit application.
- Regional Water Supply Extension Project, Confidential, West Virginia. Scope of work included construction of water transmission lines, a water distribution system, two water storage tanks, a booster station, two hydropneumatic tanks, and a water treatment plant. The total length of water line to be constructed is approximately 34 miles. The project included design of site drainage (including channels and culverts), site grading, and redesign.
- Phase I Drainage Project, Confidential, West Virginia. Project Manager. Evaluated storm water flows and identified problem areas. Contract plans and related documents were prepared to upgrade a portion of the drainage area.
- Professional Engineer and Construction Manager for the mine seal and drainage collection for an abandoned mine project in Pomeroy, Ohio for the ODNR.
- Project Manager for the preparation of construction documents for two lake dredging projects in West Virginia. Design included providing a dredging scheme, disposal site design, a water handling plan to maintain stream flow, and providing a sediment control plan for both the dredging operations and the disposal site. Provided construction administration service and oversight of construction monitoring service.
- Performed a study, evaluation, and design for a sanitary sewer (pump station and force main) extension for accommodation of proposed development of adjacent property for the WVDOH. The project included evaluating the existing system capacity, the proposed system requirements, and the permitting requirements, and recommending the proposed extension. The project concluded with the hydraulic design of the recommended extension.
- Phase I Environmental Site Assessments: a West Virginia Foundation, Fairmont, West Virginia; WVDOH Maintenance Facilities in Red House, Point Pleasant, and Hurricane, West Virginia; and a local shop in St. Albans, West Virginia.
- Phase I Environmental Assessment Project, Hurricane, West Virginia. Project Manager responsible for drilling to determine possible contamination from leaking underground storage tanks for a WVDOH maintenance facility. Additional delineation of the contaminant plume was performed by use of monitoring wells and Geoprobe. Developed Findings Reports including a Corrective Action Plan.

Affiliations

National Society of Professional Engineers, Member

Society of American Military Engineers, Members

gai consultants

Shane Fisher, PE

Assistant Engineering Manager

Education

BS, Civil Engineering Technology, Fairmont State University, 2005

Registrations

Professional Engineer (PE): WV, VA, NC, OH, MD, NJ, NY, WI, GA

Skills

Civil Engineering

Drainage System Engineering and Design

Bridge Analysis and Design

Erosion and Sediment Control Permitting

Stormwater Management Permitting

Industry Experience

GAI Consultants, Inc., 2014-Present

West Virginia Department of Transportation, Division of Highways, 2008-2014

Potesta and Associates, 2005-2008

Glassworks WV, 2000-2002

Golden Bear Construction, 1996-1999

Teal Group Construction, 1992-1996

Professional Summary

Mr. Fisher has 31 years of experience and specializes in civil engineering with experience in environmental permitting, the design and analysis of bridge structures, roadways, drainage systems, and sanitary and industrial water and wastewater systems. His experience meeting Federal Emergency Management Act (FEMA) requirements includes flood mapping, floodplain compliance, and construction monitoring for disaster-related funds. He has most recently been managing erosion and sediment (E&S) control, construction stormwater and roadway permitting duties for projects in both natural gas and overhead electric transmission lines in the Mid-Atlantic United States.

Mr. Fisher is skilled in MicroStation and InRoads for bridge and roadway design, and AutoCAD Civil 3D for preparing construction plans, grading, and civil site design. Early in his career, he was a construction superintendent and foreman responsible for coordinating laborers and carpenters, preparing as-built drawings for residential and commercial projects, and overseeing framing, painting, roofing, and electrical construction jobs.

Professional Experience

- Unnamed Tributary of a Creek In-Lieu-Fee (ILF) Project, Confidential Client, West Virginia. Assistant Engineering Manager responsible for E&S oversight and environmental permitting for the implementation of Phase I (Site Acquisition) and Phase II (Pre-Construction Design) of the approved ILF Mitigation Site. GAI is responsible for land acquisition, easement, preparation/ recording, survey, environmental baseline assessments, mitigation plan and design, permitting, and bidding document preparation.
- Responsible for design of water systems, including collection system design/rehabilitation and pumps stations. Conducted environmental permitting, hydrologic and hydraulic (H&H) analyses, and quality assurance/quality control monitoring. Developed Erosion and Sediment (E&S) Control Plans, Stormwater Pollution Prevention Plans (SWPPP), and Best Management Practice plans. Responsible for design and cost estimating for abandoned mine lands projects and industrial wastewater projects. FEMA work including Letter of Map Amendment (LOMA), flood mapping, floodplain management, and DFIRM database. Visualized and designed rain gardens, infiltration systems, and detention/retention ponds.

- Less Than 20’ Bridge Program, WVDOH, District Seven, West Virginia. Highway Engineer Associate responsible for the design and analysis of bridge structures, two summer co-op employees' inspections, all correspondence with external permitting agencies, and coordination of construction activities with the District's Heavy Maintenance Crew for bridge repairs and replacements. Performed civil site design using MicroStation and InRoads, stream hydrologic analysis using TR-55, HEC-RAS, and hydraulic analysis for bridge replacements. FEMA work included flood mapping, floodplain compliance, estimates, correspondence with FEMA, and construction monitoring for disaster related funds.
- Design and analysis of roadway drainage systems and grading plans, including roadway design projects and numerous new subdivisions. Civil site design using AutoCAD Civil 3D, including grading design, stormwater management plans, utilities, and erosion control plans. Geotechnical engineering, including subsurface explorations, slope stability analysis, and design. Surface and subsurface H&H evaluations, including stormwater runoff, peak discharge evaluations, stormwater detention analysis, and structure design.
- Responsible for design of water systems, including collection system design/rehabilitation and pumps stations. Conducted environmental permitting, H&H analyses, and quality assurance/quality control monitoring. Developed E&S control plans, SWPPP, and Best Management Practice plans. Responsible for design and cost estimating for sanitary and industrial wastewater projects, abandoned mine lands projects, solid waste disposal facility design and permitting, and subdivision sewer system design (both gravity and pump station). FEMA work including Letter of Map Amendment (LOMA), flood mapping, floodplain management, and DFIRM database. Visualized and designed rain gardens, infiltration systems, and detention/retention ponds.
- Confidential Pipeline Project, Confidential, West Virginia. Task Manager for roadway permitting, submitted to the West Virginia Department of Transportation, Division of Highways (WVDOH), and SWPPP preparation and submission to the WVDEP.
- Site-Specific E&S Control Plans and SWPPP Projects, West Virginia, Pennsylvania, and Ohio. Task Manager for the development of and completing E&S Plans and SWPPP submission to the WVDEP for approval by the agency.
- Two 138kV Transmission Line Projects, West Virginia. Task Manager for two new 138kV transmission line projects. Scope of work included roadway permitting, SWPPP development, site registration, and WVDEP submission.
- 25-Acre Compression Station Project, Confidential, North Carolina. Assistant Project Manager for E&S and stormwater management (SWM) analysis and design. Responsible for E&S and SWM analysis and design, which included channel design, pond design and outfall design.
- Environmental Permitting lead for 17-mile and 4-mile pipelines in Pennsylvania. Duties included E&S design as well as stormwater management design, which included both during construction and post-construction analysis and design. Analysis design includes channel, infiltration berm and outfall design at proposed compressor station.

Affiliations

WVU/WVDOH Partnership Fiber Reinforced Polymer Advisory Committee (formerly)

American Society of Highway Engineers

American Society of Civil Engineers, Past President, current Branch Vice President, current WV Section Vice President

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Donald Splitstone, PE

Senior Engineering Manager

Education

BS, Civil and Environmental Engineering, 1998, University of Pittsburgh

BS, Engineering Physics, Miami University, 1996

Geotechnical Engineering, University of Pittsburgh, Graduate Studies, 1998-2002

Registrations

Professional Engineer (PE): WV, PA, OH, FL

Skills

Civil Engineering

Industry Experience

GAI Consultants, Inc., 2015-Present

HDR Engineering, 2004-2015

Nicholson Construction, 2002-2004

Gannett Fleming, 1998-2002

USX, 1996-1998

Professional Summary

Mr. Splitstone specializes in design and construction of geotechnical projects for transportation, transit, railroad, government, and private clients. He has 27 years of design and construction management experience as a consulting engineer and three years of design and construction experience as an engineer for a specialty geotechnical contractor.

Mr. Splitstone's field and construction experience includes site reconnaissance and inspection for subsurface investigations (sample identification and logging), general construction inspection, forensic investigations, and specialty geotechnical construction. He has extensive experience in design and construction of specialty geotechnical foundation and retaining wall techniques including micropiles, drilled shafts, soil and rock anchors, soil nails, stone columns, vibro-compaction, jet grouting, driven piles, mechanically stabilized earth (MSE) and reinforced soil slope (RSS) walls, anchored soldier-pile and lagging (SP&L) walls, structural slurry (diaphragm) walls, as well as more traditional cast-in-place (CIP) foundation and wall systems.

Select Professional Experience

- Access Road Landslide Investigation and Remediation, Confidential Client, West Virginia. Engineering Manager. GAI evaluated the slope stability and landslide concerns identified along a substation access road located in West Virginia. GAI performed the investigation, conceptual design and coordination with our client, development of recommendations and conceptual alternatives for addressing the landslide, final design of an approved alternative, and construction support to address the landslide.
- Corridor H, Grant County, WV, WVDOH/Trumbull Corporation (Design/Build). Performed analysis and design calculations to develop roadway and structure foundation recommendations as lead geotechnical designer for the project team. Efforts included subsurface investigation program development, test boring inspection, driven pile and drilled shaft design, slope stability and settlement analysis, and MSE wall design in addition to typical design work associated with the roadway. Performed construction consultation services, including integrity inspections and analysis of cross-hole sonic (CSL) tests of drilled shaft rock sockets and assessment of proposed waste embankment area stability above an existing roadway cut.

- Access Road Landslide Investigation and Remediation Project, Doddridge County, West Virginia. Engineering Manager. Managed analysis and design calculations to develop slope stabilization recommendations as lead geotechnical designer. Recommendations included Soldier Pile & Lagging (SP&L) walls socketed into drilled shafts, a micropile "insert" or "A-Wall" with micropiles tied together with a cap beam and a several soil nail slope and wall options. Final design included development of final analyses, specifications, plans and details of the selected soil nail wall option and associated site civil and drainage construction.
- Confidential Transportation Client, Pennsylvania. Performed analysis and design calculations to develop roadway and structure foundation recommendations as lead geotechnical designer. The project encompassed three multi-span bridge structures, two multi-span twin bridge structures, one single-span twin bridge structure, six retaining walls, one reinforced soil slope, and included the design of spread footings, pile and drilled shaft foundations, mine grouting and stabilization, slope stability and settlement analysis, and embankment and cut-slope design in addition to typical design work associated with the roadway.
- Road Landslide Repairs Project, Confidential, Pennsylvania. Engineering Manager. Performed analysis and design calculations to develop roadway and structure slope stabilization recommendations as lead geotechnical designer. Recommendations included drilled shaft walls tied together with a cap beam and knee wall with reinforced soil backfill and subgrade details. Completed Final Geotechnical Engineering Report Submissions for Preliminary Design.
- Highway Landslide Repairs Project, Confidential, Pennsylvania. Engineering Manager. The sites have proposed structures or geotechnical stabilizations of varying complexity along challenging topography and various waterways. Performed analysis and design calculations to develop roadway and slope stabilization recommendations as lead geotechnical designer. Recommendations included soil nailed and reinforced soil slopes. Completed Final Geotechnical Engineering Report Submissions for Preliminary Design.
- Railroad Landslide Investigation, Confidential Client, Pennsylvania. Engineering Manager. A small slide occurred along the down slope side of a rail line for a Confidential Power Plant. GAI evaluated the slide and made a recommendation to fix the slide. The proposed work consisted of designing a retaining wall for the landslide area.
- Forensic Investigation, Confidential, Pennsylvania. Senior Geotechnical Engineer on team to perform a forensic analysis of a gabion-faced MSE wall used for temporary support of the approach embankment associated with a bridge replacement project. Responsibilities included site investigation immediately after failure and subsequent lane closure, developing recommendations for deconstruction of the failed wall system, subsequent site investigations during deconstruction of the failed wall, and review and back-analysis of design calculations and submittals.
- Emergency Bridge Replacement of Plymouth Road, Confidential, Pennsylvania. Geotechnical Engineer on team requested to develop design, plans, and specifications for the emergency replacement of a bridge closed due to damage from sink hole activity. Responsibilities included a review of published geologic information and review of foundation design, specifications, and detailing of micropile foundations for the bridge abutments underlain by karst bedrock conditions.
- Northeast Extension Bridge Replacement and Roadway Reconstruction, Confidential, Pennsylvania, (Design/Build). Developed preliminary design of foundations for the replacement of this three-span, 100-foot-tall bridge over the two-lane eastbound Main Street and valley, reinforced soil slopes, and roadway embankment for pre-bid pursuit of this project.

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Nolan Sollenberger

Project Geologist

Education

BS, Geology, 2016, West Virginia University

Skills

Groundwater Sampling

Soil Logging and Sampling

Monitoring Well Construction and Installation

Sinkhole Investigations

Spill Responses

Vapor Monitoring

Environmental Site Assessments

ArcGIS

Certifications

OSHA 40-Hour HAZWOPER

OSHA 8-Hour Refresher Training

First Aid

CPR

Industry Experience

GAI Consultants, Inc., 2022-Present

Mountain Research, LLC, 2018-2021

Computerized Mudlogging Service, LLC, 2018

Professional Summary

Mr. Sollenberger serves as a Project Geologist for GAI's Power Generation Group. He has 5 years experience and specializes in environmental consulting with experience in groundwater sampling, soil logging and sampling, monitoring well construction and installation, sinkhole investigations, spill responses, vapor monitoring, environmental site assessments, and has assisted with drilling operations. He has also authored quarterly Remedial Action Progress and Completion Reports, Site Characterization Reports, Remedial Action Plan Reports, and Act 2 Reports. He is proficient with PID meter, groundwater pumps, and various hand and power tools.

Professional Experience

- Drainage Project, West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation, Kanawha County, West Virginia. Project Geologist. GAI is providing geotechnical investigations and analyses; designing access for construction and future maintenance access; hydrologic and hydraulic analyses; installation of drainage channels, underdrains, and/or other controls to safely convey water off-site; revegetation of all disturbed areas; and required permitting.
- Transmission Line Rebuild Project, Confidential, Virginia & North Carolina. Geotechnical Engineering Services to conduct a subsurface exploration and laboratory testing program to obtain parameters for the design of the transmission line structure foundations. Scope includes existing information review, subsurface investigation, geotechnical laboratory testing, and preparing soil parameter recommendations to be used for uplift/compression and lateral load analysis with the software programs MFAD (by FAD Tools) and LPILE (by Ensoft). Geotechnical engineering report.
- Pipeline Project, Confidential, Pennsylvania. Geotechnical field explorations and analyses on six landslide areas identified along a pipeline right of way. Project included test borings using a Triggs (WildCat) Dynamic Cone penetrometer (DCP) and lab testing as well as geotechnical reporting and repair plans.
- Preliminary Design and Geotechnical Evaluation for Airport Runway Improvements, Confidential, Pennsylvania. Geotechnical Evaluation includes geotechnical review of existing data, subsurface investigations, borings, geotechnical testing, and geotechnical engineering report.

Previous Professional Experience

Environmental Field Technician III, Mountain Research LLC (2018-2021)

- Performed routine groundwater sampling.
- Performed soil logging and sampling monitoring well construction and installation.
- Assisted with drilling operations, including direct push, split spoon, and air rotary.
- Installed and sampled of sub slab vapor monitoring points.
- Monitored well and vapor point abandonment.
- Remedial system shed installation, system checks, and site assessments.
- Conducted sinkhole investigations, spill responses, excavations, and oversight activities.
- Authored quarterly Remedial Action Progress and Completion Reports, Site Characterization Reports, Remedial Action Plan Reports, and Act 2 Reports.

Mudlogger, Computerized Mudlogging Service, LLC (2018)

- Performed the collection of well cuttings at proper lagged depths and intervals.
- Washed, screened, identified, analyzed, and dried samples.
- Entered gathered information into computer programs.
- Delivered daily reports in a timely manner by hand and through email.

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Mary Beth Berkes, PE, MS

Assistant Civil Technical Leader

Education

MS, Civil Engineering, Concentration in Coastal and Ocean Engineering, 2010, Oregon State University

BS, Civil Engineering, 2008, University of Pittsburgh

Registrations

Professional Engineer (PE): WV, IN, KY, OH, PA, WI

Certifications/Training

Rosgen I: Applied Fluvial Geomorphology, MT, 2016

Rosgen II: River Morphology and Applications, NC, 2017

Rosgen III: River Assessment and Monitoring, WV, 2018

Rosgen IV: River Restoration and Natural Channel Design, CO, 2019

Skills

Civil Engineering

Hydrology and Hydraulics

Dam Design and Hydraulic Analysis

Stream and Wetland Mitigation Design

Coastal and Ocean Engineering

Awards

2018 Young Professional of the Year – Society of American Military Engineers (SAME)

Industry Experience

GAI Consultants, Inc., 2010-Present

Oregon State University, Civil Engineering Department, 2008-2010

University of Pittsburgh, 2008

Professional Summary

Ms. Berkes specializes in stream restoration design, hydrologic and hydraulic (H&H) analyses, inundation studies and investigations, coastal engineering, and design of hydraulic structures. She has 15 years experience and completed training on Natural Channel (Rosgen Levels I through IV), hydrologic and hydraulic permitting and procedures, and advanced HEC-RAS and scour analyses. She is proficient in HEC-RAS, HY-8, HEC-HMS, Hydraflow Hydrographs, DamSites, PondPack, StormCAD, and AutoCAD.

Ms. Berkes' interest in inundation and flooding began as an undergraduate researcher through conducting field reconnaissance in Thailand following the 2004 Indian Ocean Tsunami. This experience was further developed as a graduate student where she managed a large-scale experiment on wave forces and structural failures under tsunami inundation.

Professional Experience

- Stream Restoration Design for nine on-site permittee responsible mitigation (PRM) projects across West Virginia (WV). Solutions for stream restoration or stabilization were designed to offset alleged impacts from previous development. Stream restoration design included use of natural channel design and fluvial geomorphology based methodologies as practical considering site constraints due to surrounding roadways and/or steep topography. Deliverables included hydraulic modeling to assess shear stress and sediment transport, design of structures for grade control and bank stabilization, and preparation of design reports and drawings. Work at two sites included leading of on-site pre-bid and pre-construction meetings, coordinating construction observation efforts and as-built surveys, and conducting annual monitoring.
- Unnamed Tributary In-Lieu-Fee (ILF) Project, Confidential Client, West Virginia. Civil Engineer for the implementation of Phase I (Site Acquisition) and Phase II (Pre-Construction Design) of the approved ILF Mitigation Site. Engineering led tasks included design plan development for over 2.5 miles of stream restoration and enhancement reaches, and hydraulic modeling using RAS-Mapper to develop two dimensional plots for floodplain inundation mapping and areas of critical velocity and shear stress. GAI was responsible for land acquisition, easement, preparation/ recording, survey, environmental baseline assessments, mitigation plan and design, permitting, and bidding document preparation.

- On- and Off-Site Restoration and Mitigation Plan, Confidential, West Virginia. GAI is responsible for collecting physical, chemical, and biological data necessary for calculation of Ohio Stream and Wetland Valuation Metric and preparation of the Conceptual Mitigation Plan.
- Creek Streambank Restoration Project, Confidential, West Virginia. Project Manager. GAI developed and prepared a streambank restoration stabilization plan with necessary plan sheets to fulfill the Client's obligations of restoring and monitoring approximately 100 linear feet of perennial streambank. GAI prepared a Hydrologic & Hydraulic Analyses Report for Stabilization Design and Floodplain Assessment along with a bank restoration and stabilization plan to support permitting and construction. Led development of construction support documents including bid forms, quantity estimates, and material specifications and ran on-site pre-bid and pre-construction meetings. Conducted construction observation and led coordination with survey for stakeout and as-built certification.
- Unnamed Tributary of a Creek Stream Restoration Project, Confidential, West Virginia. Project Manager. Designed on-site stream relocation using natural channel design (NCD) methods. Design challenges included working within a constrained environment due to an adjacent roadway in the stream's floodway. GAI developed a mitigation and restoration plan which provided enough Stream and Wetland Valuation Metric credits to offset the debits, resulting in 256-feet of stream restoration. Led development of construction support documents including bid forms, quantity estimates, and material specifications and ran on-site pre-bid and pre-construction meetings. GAI conducted construction observation, developed final as-built survey, and is currently conducting annual monitoring and reporting.
- Stream and Culvert Restoration, Confidential, West Virginia. Project Manager. Designed on-site stream relocation using natural channel design (NCD) methods. Design challenges included working within a constrained environment due to an adjacent roadway and undersized existing culvert to be replaced. GAI developed a mitigation and restoration plan which provided enough Stream and Wetland Valuation Metric credits to offset the debits, resulting in 115-feet of stream restoration. Led development of construction support documents including bid forms, quantity estimates, and material specifications and ran on-site pre-bid and pre-construction meetings. GAI conducted construction observation, developed final as-built survey, and is currently conducting annual monitoring and reporting.
- JC Cruikshank Memorial Bridge Project, West Virginia Department of Transportation, Division of Highways (WVDOH), Ivydale, Clay County, West Virginia. Technical Advisor. Responsible for hydraulic modeling. GAI is conducting a PIE Study, which consists of the preparation of feasibility reports/studies and construction estimates for various alternatives, along with any subsequent surveying, mapping, and geotechnical engineering work that is necessary to develop a design study, contract plans and right-of-way acquisition plans. In addition, this work is anticipated to consist of an Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) environmental document in compliance with the National Environmental Policy Act (NEPA).
- Wetland Mitigation Plan, Confidential, Pennsylvania. H&H Technical Lead. Four stormwater ponds were designed to collect runoff from the interchange ramps and discharge into the wetland system at a controlled rate. The Wetland Mitigation Plan also incorporated stream relocation, and the relocated stream was meandered throughout the site to create a wetland environment. An Agri-Drain was designed to hold smaller storm events in the wetland system and to effectively discharge the 2-year, 24-hour flow from the relocated stream. Deliverables included a Planting Plan, H&H Calculation package, Wetland Mitigation Plan, and Wetland Mitigation Details Sheets.

Alex Cook

Senior Project Environmental Specialist

Education

BS, Biology, 2006, West Virginia State University

Skills

Environmental Investigation, Sampling, Analysis

Wetland Delineation

Environmental Permitting

Threatened and Endangered Species Surveys

Certifications / Training

Approved Surveyor for Running Buffalo Clover, West Virginia Division of Natural Resources

Wetland Delineation Training, North Carolina State University, 2008

NEPA and Transportation Decision Making, National Highway Institute (USDOT/ FHWA), 2009

Ohio EPA QHEI Training, Ohio EPA, 2008

24-hour MSHA Training

Industry Experience

GAI Consultants, Inc., 2014-Present

Michael Baker, 2007-2014

Professional Summary

Mr. Cook specializes in environmental and biological surveys and field assessments for private and public clients, including wetland delineations, jurisdictional stream determinations, vegetation surveys, benthic and water quality sampling, fish and herpetology studies, and threatened and endangered species surveys. He has 16 years experience and is familiar with current West Virginia and federal regulations, including the Section 401 and 404 permitting process [Clean Water Act (CWA)] and Section 7 consultation [Endangered Species Act (ESA)]. He has also been involved in drafting technical reports and National Environmental Policy Act (NEPA) documents for numerous large transportation and natural resource related projects.

Mr. Cook demonstrates a strong knowledge of current federal, state, and local regulations pertaining to permitting and agency coordination for environmental and natural resource concerns relating to surface waters and navigable rivers, floodplains, national forests, and threatened and endangered species, among other subjects. He has also helped develop, plan, permit, and monitor several large stream and wetland mitigation projects for both public and private clients.

Professional Experience

- Implemented and performed bi-annual Narrative Water Quality assessments (NPDES compliance) for a proposed surface mine project that included habitat assessments, water quality sampling, fish surveys, benthic macroinvertebrate surveys, and geomorphic and sediment transport studies following West Virginia Department of Environmental Protection (WVDEP) and federal protocols.
- Unnamed Tributary of a Creek, Phase I (Site Acquisition) and Phase II (Pre-Construction Design) In-Lieu-Fee (ILF) Stream and Wetland Mitigation Program, Confidential Client, West Virginia. Environmental Lead. Responsible for environmental tasks including stream and wetland delineations, stream assessments (for habitat, hydrogeomorphology, water quality, and benthic macroinvertebrates), environmental permitting (U.S. Army Corps of Engineers (USACE)/404 permit, WVDEP 401 certification, U.S. Fish and Wildlife Service (USFWS) Section 7 coordination, etc.), and mitigation calculations using West Virginia Stream and Wetland Valuation Metric to determine mitigation debits from impacts & mitigation credits for proposed restoration.

- Conducted wetland delineations and vegetation surveys for several constructed compensatory wetland sites in West Virginia to evaluate and report fulfillment of mitigation success criteria.
- Streambank Restoration Project, Confidential, West Virginia. Environmental Permitting Lead: Responsible for supplemental stream and wetland delineations, stream assessments (for habitat, hydrogeomorphology, water quality, and benthic macroinvertebrates), mitigation calculations using West Virginia Stream and Wetland Valuation Metric to determine mitigation debits (for impacts), and environmental permitting including the U.S. Army Corps of Engineers (USACE)/404 authorization WVDEP/401 certification.
- On- and Off-Site Restoration and Mitigation Plan, West Virginia. Environmental Lead: Responsible for environmental tasks including stream and wetland delineations, stream assessments (for habitat, hydrogeomorphology, water quality, and benthic macroinvertebrates), environmental permitting (U.S. Army Corps of Engineers (USACE)/404, West Virginia Department of Environmental Protection (WVDEP) 401 certification, U.S. Fish and Wildlife Service (USFWS) Section 7 coordination, etc.), and mitigation calculations using the West Virginia Stream and Wetland Valuation Metric to determine mitigation debits from impacts and mitigation credits for proposed restoration activities.
- Oakwood Road Improvements Environmental Assessment (EA), WVDOH, Kanawha County, West Virginia. Senior Project Environmental Specialist. Coordinated delineation of potentially jurisdictional resources along two-miles associated with a proposed road widening and improvements project between MacCorkle Ave (WV Rt. 61) and Emerald Road in Charleston, WV. Responsibilities involved surface water impacts, structural inventories and impacts, socioeconomic impacts analysis, and threatened and endangered (TE) species coordination to support and prepare the associated EA documentation.
- Appalachian Corridor H, Davis-to-Bismarck Section 404 Permit Modification, WVDOH, Tucker and Grant Counties, West Virginia. Environmental Associate responsible for revising existing Section 404 Permit for stream and wetland impacts following design changes to the previously authorized alignment. Modification included delineation of potentially jurisdictional resources along the 16.5-mile revised alignment between Davis and Bismarck, WV. The delineation consisted of approximately 135 acres of high elevation bog wetland along Beaver Creek for inclusion in the Cheat River Watershed Mitigation and Preservation Plan developed to offset impacts of the multiple sections of Appalachian Corridor H as part of the Davis-to-Bismarck 404 Modification.
- West Virginia Route 14 Mineral Wells to Pettyville EA, WVDOH Wood County, West Virginia. Environmental Associate. Conducted environmental evaluations and field assessments to study alternatives for the upgrade of a portion of WV 14 in Wood County between Mineral Wells and Pettyville. Responsibilities involved conducting surface water delineations, stream assessments, structural inventories, hazardous waste analysis, socioeconomic impacts analysis, and Section 7 coordination to support and prepare the associated EA documentation.
- Appalachian Corridor H, Kerens-to-Parsons Categorical Exclusion (CE) for Core Boring Activities, WVDOH, Randolph and Tucker Counties, West Virginia. Environmental Associate. Assisted in development of two (2) CE documents for core boring activities proposed to support geotechnical analysis along two segments of the Kerens-to-Parsons Section of Appalachian Corridor H. Specifically, Mr. Cook coordinated and conducted analyses for threatened and endangered species, including mist net surveys for bat species, botanical surveys for running buffalo clover and small whorled pogonia, and consultation for the West Virginia northern flying squirrel and Cheat Mountain salamander. Additionally, a habitat analysis was prepared for species listed on the regional forester’s sensitive species list.
- Coonskin Park Access EA, WVDOH, Kanawha County, West Virginia. Environmental Associate. Contributed to the preparation of an EA to study alternatives for the relocation of an alternative access route to Coonskin Park, including a bridge over the Elk River, which is known to contain sensitive, threatened, and endangered species. Mr. Cook helped facilitate State and federal agency coordination for threatened and endangered species and performed research to support archaeological resource studies and socioeconomic impacts, including environmental justice analysis.

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Adam Mann, MS

Environmental Manager

Education

MS, Biology, 2007, Marshall University

BA, Biology, 1997, Thomas More College

Skills

Biology and Wildlife Zoology

Endangered Species Surveys

Habitat Assessments

Certifications / Training

Federally permitted bat biologist

State-permitted bat biologist and approved bat surveyor: CT, GA, IN, IL, KY, MD, MO, NJ, NY, OH, PA, TN, VA, and WV

Qualified Indiana Bat Surveyor (PA)

Approved Surveyor of Bats (VA)

Rosgen I: Applied Fluvial Geomorphology, Asheville, NC, 2004

Rosgen II: River Morphology and Applications, Franklin, NC, 2005

PADI Advanced Open-Water Diver

Wildlife Acoustics – Bat Acoustics Training Course

ODOT Ecological Training

USFWS – Interagency Consultation for Endangered Species

USFWS – Acoustical Monitoring for Indiana Bats

Industry Experience

GAI Consultants, 2012-Present

Environmental Solutions & Innovations, Inc. (ESI), 2003-2012

Marshall University, 2001-2003

Professional Summary

Mr. Mann specializes in wildlife zoology with a diverse background in herpetology, ornithology, ichthyology, and mammalogy. He has been involved in a variety of aquatic and terrestrial ecology research positions, working closely with bats, amphibians, reptiles, fish, mussels, birds, and aquatic invertebrates for the past 22 years. He is familiar with the physiology, taxonomy, and ecology of many extant vertebrates and terrestrial plants. Mr. Mann has completed surveys for a wide variety of species in the eastern United States, predominantly in West Virginia, Kentucky, Indiana, Ohio, Pennsylvania, Virginia, New Jersey, and New York.

Mr. Mann's project management experience includes coordinating multiple field survey teams, maintaining contact with clients and regulatory agencies, and producing all necessary follow-up documentation. Many of these projects concern federally endangered Indiana bats (*Myotis sodalis*) and federally threatened northern long-eared bats (*Myotis septentrionalis*). Mr. Mann is a federally permitted bat biologist and has held state permits and conducted projects within numerous states in the range of the Indiana bat and northern long-eared bat. Since 2003, He has managed and conducted a diverse array of field studies for bats and possesses expertise in the following areas:

- Mist net and harp trap surveys: site reconnaissance, mist net set up, bat handling, eastern bat species identification (including all threatened and endangered species), and morphometric processing
- Radio-telemetry surveys: transmitter attachment, diurnal roost and nocturnal foraging telemetry, aerial radio-telemetry via fixed-wing aircraft, roost tree assessments, and emergence surveys
- Acoustic monitoring: detector set up, detector monitoring and maintenance, and data compilation and analysis
- Habitat assessments: evaluation of summer and winter habitat suitability, identification of potential roost trees, bridge and other roost structure surveys
- Winter hibernacula surveys: Indiana bat and northern long-eared bat hibernacula population inventories

Professional Experience

- Transmission Line Area Improvements Project, Confidential, West Virginia. Environmental Task Manager for conducting environmental studies to provide supporting documentation, drawings, and specifications necessary for others to prepare permit applications for approximately 27 miles of new proposed transmission line routes and up to 64 miles of new and upgraded access roads.
- 46kV Transmission Line Project, Confidential, West Virginia. Environmental Task Manager for conducting environmental consulting services to evaluate the 46kV Transmission Line Rebuild project. Project includes approximately 2.7 miles of added and/or revised access roads and approximately 40.7 acres of workspace to be studied for environmental features.
- Area Improvements Projects, West Virginia and Virginia. Managed all bat studies on approximately 100 miles of improvement projects. Project tasks included net site reconnaissance, mist netting, transmitter attachment, radio-tracking, portal searches, fall portal harp trapping, and habitat assessments. Performed harp trapping field efforts, coordinated with clients and agencies, and produced technical reports and Bat Conservation Plans.
- Multiple Natural Gas Pipeline Projects, West Virginia. Managed and coordinated bat-related studies, including qualitative habitat assessments and roost tree evaluations for Indiana bats and northern long-eared bats on approximately 50 miles of pipeline projects. Coordinated with clients and agency personnel and produced Bat Conservation Plans.
- 138kV Transmission Line Projects, Confidential, West Virginia. Managed all bat-related studies, including mist netting, radio-tracking of northern long-eared bats, roost tree assessments, and emergence surveys for the two projects, totaling approximately 23 miles. Coordinated with clients and agency personnel and produced required technical reports.
- Multiple Natural Gas Well Pad Projects, Confidential, West Virginia. Coordinated and managed bat-related studies for approximately 15 well pads including qualitative habitat assessments, roost tree evaluations for Indiana bats and northern long-eared bats. Produced Bat Conservation Plans. Coordinating efforts to conduct bat conservation measures and monitoring.
- Northern and Southern Corridor Improvements Projects, Confidential, West Virginia. Managed bat-related studies for a 50-mile electric transmission system improvements project. Field tasks included site reconnaissance, mist netting, transmitter attachment, radio-tracking of Indiana and northern long-eared bats, roost tree assessments, and emergence surveys. Performed client and agency coordination, and produced technical reports and Bat Conservation Plans.
- Natural Gas Pipeline Project, Confidential, West Virginia and Ohio. Assisted in coordination of bat-related habitat studies for a 36-mile interstate natural gas pipeline. Project tasks included mist netting, Indiana bat and northern long-eared bat habitat assessments in known summer occurrence areas. Performed habitat assessments associated with known occurrence area for the species and assisted with reporting and consultation efforts with the USFWS.
- Natural Gas Pipeline Projects, Confidential, West Virginia. Managed bat-related tasks for 72 miles worth of natural gas pipeline projects. Tasks included a qualitative habitat assessment and roost tree evaluation for Indiana bats. Produced Bat Conservation Plans for each project.
- Abandoned Mine Surveys, Eastern Pennsylvania. Completed harp trap surveys for federal and state listed bat species at 12 abandoned mine portals located in areas of future commercial development. Led a team of two biologists, whose purpose was to document the presence/absence of federal and state listed bats during autumn swarming, and to determine if bats are using the portals as hibernacula. Completed mine assessments, bat habitat assessments; trap set-up, bat handling and identification, and sampling.

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Benjamin Resnick, RPA, MA, MBA

Assistant Vice President / Senior Director

Education

MBA, 2013 Point Park University

MA, Anthropology / Public Service Archaeology, 1984, University of South Carolina

BA, Anthropology, 1980, University of Maryland

Registrations

Register of Professional Archaeologists (RPA)

Skills

Project Management

Historical Archaeology

Environmental Permitting

Phase I, II, & III Archaeological Investigations

SHPO and Native American Consultation

Certifications / Training

Harvard Leadership Development Training, GAI Consultants, Inc., 2009

Advanced Project Management Training, GAI Consultants, Inc., 2008

ASFE Fundamentals of Professional Practice, 1999

Industry Experience

GAI Consultants, Inc., 1989-Present

Louis Berger & Associates, Inc., 1986-1989

Archaeological Advisory Group, 1984-1986

University of South Carolina, 1981-1984

Scientific Research Surveys, Inc., 1980-1981

Professional Summary

Mr. Resnick specializes in historical archaeology and Section 106 [National Historic Preservation Act of 1966 (NHPA)] compliance investigations. He is currently involved in developing opportunities and managing environmental permitting projects that focus on the energy, transportation, and government market sectors. His areas of specialization include managing open-end agreements with a focus on staffing, scheduling, quality and cost controls, technical report preparation, and State Historic Preservation Office and Native American consultation.

Mr. Resnick has spent 43 years of experience conducting and managing all aspects of Section 106 (NHPA)and has authored more than 150 technical reports and publications. This includes the completion of National Environmental Policy Act (NEPA), NHPA, Section 4(f), and Federal Energy Regulatory Commission (FERC) compliance documents, feasibility studies, Phase I, Phase II, and Phase III archaeological investigations, criteria of effect evaluations, programmatic and memorandum of agreements, integrated cultural resources management plans, and historic preservation plans. Many of these studies were conducted as part of cultural resources or environmental indefinite quantity contracts / master service agreements for energy companies, state departments of transportation, and federal agencies.

Professional Experience

Project Manager / Principal Investigator

- Historic District Survey and Nomination Project, Confidential, West Virginia.
- Historic District Survey and Nomination Project, Confidential, West Virginia.
- Road Improvements Project, Confidential, West Virginia. GAI is providing NEPA documentation for a two-mile roadway improvement project.
- Bridge Replacement Project, Confidential, West Virginia. GAI conducted an architectural and historical resources survey for the proposed bridge replacement project. The bridge has been determined eligible for listing in the NRHP under Criterion C. This work included an Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) environmental document.

- Hutchinson Truss Bridge Project, Phase I Archaeological Investigation and Architectural and Historical Resources Survey, WVDOH, Marion County, West Virginia.
- Mt. Gay Deck Arch Bridge Replacement Project, Categorical Exclusion Evaluation (CEE), Phase I Archaeological Investigation, Historic Resources Eligibility and Effects Report, and State-Level Recordation, WVDOH, Logan County, West Virginia.
- North Whites Addition Arch Bridge Replacement Project, Categorical Exclusion Evaluation (CEE), Phase I Archaeological Investigation, Historic Resources Eligibility and Effects Report, and State-Level Recordation, WVDOH, Logan County, West Virginia.
- National Forest, Phase I Cultural Resources Investigation, Confidential Client, , West Virginia.
- Multiple Context Statements, Research and Narrative Reports, Confidential Client, West Virginia (Statewide).
- Roy Lilly Memorial Bridge Replacement Project, WVDOH, Wyoming County, West Virginia. Phase I Archaeological Investigation and Historic Resources Eligibility and Effects Report.
- Armory Studies, Confidential Client, West Virginia. GAI conducted architectural and historical resources survey of six armories, constructed between 1958 and 1966, which had reached 50 years of age.
- Fourth Street Arch Bridge Replacement Project, WVDOH, Lewis County, West Virginia. Project Manager for this Categorical Exclusion Evaluation (CEE) in compliance with the NEPA. The transportation needs of project include three factors: improve safety by upgrading the bridge to current design standards; maintain community cohesion; and provide for traffic and pedestrian efficiency.
- Phase I Cultural Resources Investigation, Wetzel County Headquarters Project (State Project S399-PPP-1.00), WVDOH, Wetzel County, West Virginia.
- Historical Resources Survey, EA and FONSI, Dingess Street Bridge Replacement Project, WVDOH, Logan County, West Virginia.
- CEE and Section 4(f) Documents, Bridge Street Bridge Replacement Project, WVDOH, Taylor County, West Virginia. Final NEPA approval for construction was granted to the WVDOH in 2015.
- Archaeological Investigations, Office Building Project, Confidential, West Virginia.
- Phase I Cultural Resource Investigations and Phase II National Register Evaluations, Confidential Pipeline Project, West Virginia.
- Cultural Resources Consultation, Lucas-Weaver-Ripley Abandonment Project, Ashland County, Ohio and Jackson County, West Virginia.
- Phase I Cultural Resources Investigation, Camp, Confidential Client, Randolph County, West Virginia.
- Phase II Investigations, Hotel Site for the Fire Suppression System, Confidential Client, Fayette County, West Virginia.
- Archaeological Data Recovery at the Overby Site (46Wa112), US Route 52, Tolsia Highway Project, WVDOH and Kimley-Horn and Associates (KHA), Wayne County, West Virginia.

gai consultants

Michael Holbert, PE

Senior Engineering Manger

Education

BS, Civil Engineering (Summa Cum Laude), 1996, West Virginia University

Registrations

Professional Engineer (PE): WV, PA, MD

Skills

Project Management

Transportation and Roadway Engineering

Surveying

Industry Experience

GAI Consultants, 2018-Present

AECOM, 2003-2018

Thrasher Engineering, Inc., 2002-2003

Hannah & Associates, Inc., 1999-2002

WVDOT, Division of Highways, District 1, 1997-1999

Professional Summary

A West Virginia, Pennsylvania, and Maryland-registered Professional Engineer (PE), Mr. Holbert serves as an Engineering Manager in GAI's Northeast Transportation group. His 26 years of transportation and roadway engineering experience include development of plans, specifications, and cost estimates; design study, preliminary engineering, and final engineering for numerous bridges and roadways. Previous career roles have included serving as Deputy Project Manager, Civil Task Manager, Project Engineer, Lead Roadway Engineer, Civil Designer, and Survey Party Chief.

Professional Experience

- White Avenue Slip Project, City of Morgantown, Morgantown, West Virginia. Project Manager. Responsible for coordinating and managing fiscal and personnel aspects of the project. The project included the remediation and design of a roadway damaged by a landslide located in West Virginia. The project required stabilization of the hillside, road repair, drainage upgrades, and remediation below the slip.
- Road to Virginia State Line – Design-Build, Confidential, West Virginia. Lead Roadway Engineer. GAI is the designer for the $40 Million roadway expansion project to widen the corridor to four lanes. The project improves the existing two-lane section of the corridor for 5.5 miles.
- Expressway Design, Confidential, West Virginia. Project Engineer during the plans, specifications, and estimates (PS&E) phase; and during the bidding and construction phases, which involved the design of 1.5 miles of four-lane controlled access mainline, two interchanges including a high-speed, tri-level connection with 1.9 miles of new or reconstructed local roads, and multiple bridge, box culverts, and retaining wall structures.
- Memorial Bridge Replacement, Confidential Transportation Client, West Virginia. Lead Roadway Engineer responsible for roadway, traffic, right-of-way (ROW), utilities, and drainage design. The GAI team was selected to conduct a design study for replacing an existing 4-span bridge. The existing bridge is 338 feet, six inches long. The study evaluated an upstream replacement alternative, a downstream replacement alternative, and an alternative that was to rehabilitate the existing structure.

- Bridge Replacement, Confidential Transportation Client, West Virginia. Lead Roadway Engineer responsible for roadway, traffic, right-of-way (ROW), utilities, and drainage design. The GAI team was selected to provide engineering services for replacing an existing four-span bridge comprised of simple-span trusses over the river. The existing bridge is 330 feet, six inches long and has many challenges like federally endangered mussels, close proximity of utilities, tight right-of-way (ROW), and existing roadway geometry. The proposed replacement structure is a multibeam continuous curved plate girder on drilled shaft piers and integral abutments.
- Road Overpass, Confidential, West Virginia. Lead Roadway Engineer. Design-build project that involves the replacement of two existing bridges with two lanes in each direction with one 270-foot-long bridge with three lanes in each direction and associated approach roadway work. Responsible for roadway plans, roadway modeling, and cross sections.
- Bridge - Indefinite Delivery/Indefinite Quantity (IDIQ), Confidential, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of preliminary engineering and final engineering for the replacement of an existing bridge carrying over a 65-foot-long spread box girder beam bridge. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Concrete Joint Repair IDIQ, Confidential, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of preliminary engineering and final engineering for the concrete joint repair on a three-mile section of the Harmon Creek Exit to the Pennsylvania State Line.
- Bridge IDIQ Project, Confidential, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of a design study, preliminary engineering, and final engineering for the replacement of an existing bridge with a 20-foot by five-foot concrete box culvert. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Bridge Design Project, Confidential, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of a design study, preliminary engineering, and final engineering for the replacement of an existing bridge with a 175-foot-long steel girder bridge. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Bridge Project, Confidential, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of a design study, preliminary engineering, and final engineering for the replacement of an existing bridge with a 187.5-foot-long steel girder bridge. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Upper Plaza, Confidential, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of a design study, preliminary engineering, and final engineering for Upper Plaza Bridges. The project incorporated the needs of four components to the project along within the city limits.

gai consultants

Sean Uber, MBA

Senior Survey Manager

Education

MBA, 2019, Point Park University

BS, Parks & Recreation-Natural Resource Management, Slippery Rock University

Skills

Surveying

Computer Aided Design and Drafting

Environmental Permitting

Certifications / Training

IADC RIGPASS, Washington, PA, 11/2/2017

OSHA 10-Hour Construction Training, Pittsburgh, PA, 5/20/2021

AEP, Pittsburgh, PA, 1/17/2020

FERC, Pittsburgh, PA, 1/29/2020

Various Client Safety & Environmental Trainings, 2015-2021

LISCAD Plus Coordinate Geometry

Topcon Hiper Data Collection and Processing Courses

Industry Experience

GAI Consultants, Inc., 2010-Present

Michael Baker Jr., Inc., 2004-2010

Lucas Land Surveying, Inc. 2000-2004

Kurtanich Engineers and Associates, 1998-2000

United States Department of the Interior, Fish and Wildlife Service, 1996

United States Department of Agriculture, Soil Conservation Service, 1995-1996

United States Air Force, 1986-1995

Professional Summary

Mr. Uber specializes in as-built and routing surveys, computer aided drafting and all types of permitting required by the client. He has served the energy industry in environmental permitting and surveying capacities for 28 years He has personally managed and/or performed surveying, Geographic Information System (GIS) and mapping related projects throughout the U.S. and overseas in Iraq and Afghanistan.

Mr. Uber has trained survey personnel with the latest surveying, mapping and GIS data collection hardware and software. These systems include robotic, auto tracking and reflectorless Electronic Distance Meter (EDM) total stations, GPS-RTK hardware and software, as well as computer aided drafting software. He has extensive knowledge in pipeline routing, design and as-built surveys.

Mr. Uber has performed hundreds of miles of alignment plan and profile drawings, right-of-way plats, ALTA/ACSM Land Title Surveys, and as-built alignment surveys for energy companies throughout the region. He is experienced in both the field and office environments and this allows for a clear understanding of the demands of time sensitive projects. With unique abilities in coordinating both office and field services, he can fully understand clients' needs.

Professional Experience

- Confidential Pipeline Project, West Virginia, Virginia, and North Carolina. Field Survey Supervisor for 550 miles of pipeline construction across three states. GAI provided corridor routing, surveying, and mapping services. GAI also provided Transportation Structure Verification studies across the entire pipeline.
- Supply Header – Surveying and Mapping Project, Confidential, West Virginia. Project Manager. GAI collected and mapped the parcel data and landowner information for 37 miles of natural gas pipeline. This was used to generate an affected property owner's list and subsequent mailing list. Then, GAI located the existing pipelines in the area, flagged and surveyed the pipeline, surveyed the river crossings, generated detailed mapping, road and railroad survey and data collection to be used for permit applications, and permit drawings and plats. GAI also provided aerial imagery of the project.

- Power Station Surveying Project, Confidential, West Virginia. Project Manager. GAI conducted a topographic field survey and provided a .pdf version of topographic survey; .pdf copy of survey field notes; separate survey points file in text format; and high-resolution photographs (.jpg) of the survey area.
- 30-mile Supply Header Pipeline Project, Confidential, West Virginia. Senior Survey Technician. Performed as-built field survey, as well as office work gathering data from crews and creating the tally report.
- 10-mile Pipeline Replacement Project, Confidential, West Virginia. Senior Survey Technician. Performed office work, including markups, red lining, and the full tally report.
- Coal Combustion Residual (CCR) Pond Closures Project, Confidential, Virginia. Field Survey Supervisor. GAI is providing permitting and construction engineering support for the closure of multiple CCR Surface Impoundments. The ponds covered a combined area of over 100 acres and are being closed by a combination of removing CCRs and closure with CCRs in place in accordance with State Regulations and the Environmental Protection Agency's CCR Rule (40 CFR Part 257, Subpart D).
- Solar Project – Phase 1 Studies, Confidential, Kentucky. Mr. Uber is managing the field survey crews for this 90MW solar development project. GAI is performing ALTA/ACSM Land Title Surveys, Topographic Surveys, and Boundary Surveys across 3,000 acres.
- Right of Way Acquisition Project, Confidential, Pennsylvania. Field Survey Supervisor for 22-mile pipeline relocation and routing survey. Responsible for mapping existing gas line using GIS data collection hardware and software and selecting new route based on topographic, environmental and archeological features. Supervised the completion of Right of Way (ROW) Acquisition Plans for the client showing existing pipeline versus the new route. Managed three field crews and two CAD technicians.
- Gas Line Relocation Project, Confidential, Pennsylvania. Field Survey Supervisor for topographic survey and route selection of approximately three miles of CPA service line. Responsible for location of existing gas line ROW establishment in the field. Supervised the update and completion of environmental permit and construction drawings for this fast track project.
- Pipeline Project, Confidential, Pennsylvania. Field Survey Supervisor for the installation of over 100 miles of gathering system pipeline. Responsible for training field survey personnel in the proper acquisition of field data, routing, environmental permitting surveys, as-built data collection, and review of completed drawings before delivery to the client. Additionally responsible for the accurate completion of pipe tally reports allowing access to pipeline information on a level of detail required by the client.
- As-built Pipeline Project, Confidential, Pennsylvania. Field Survey Supervisor responsible for as-built pipeline data collection. Responsible for training field survey crews and accurate completion of pipeline database used for an automated plotting process for a 42-mile gas pipeline. Responsible for final as-built survey plan review. Set up smart pig coordinate system plan for the accurate location of pipeline defects. Completed final as-built surveys of launchers/receivers after final construction was complete. Managed four field crews for this 19-month project.
- Water & Sewer Authority, Confidential, Pennsylvania. Survey Party Chief for a GIS data collection project for the local governments combined sewer systems. The project consists of locating approximately 2,500 combined sewer systems (CSO) manholes, inlets and outfalls. Responsible for accurate data collection using both GPS-RTK and traditional traverse survey methods.
- Municipal Authority, Confidential, Pennsylvania. Survey Party Chief for new sanitary sewer project. This project involved property boundary surveys, deed research, construction stakeout and as-built surveys of a new five-mile sanitary sewer system replacing outdated septic tanks and leach fields of approximately 200 existing dwellings. Responsible for collection of complete and accurate survey data to establish property boundaries for new sewer easements. Generated legal descriptions and ROW plats. Established GPS control network to ensure accurate construction stakeout and as-built survey capabilities.

gai consultants

JT Sutton

Senior Construction Support Specialist

Education

BA, Anthropology, 1991, West Virginia University

Registrations

HAZWOPER: 40-hour Hazardous Materials Training. Certified 2003, 2004, 2005, 2008

Confined Space Entry and Awareness Training. Certified

Subpart S: Underground Construction and Coffer Dams Training. Certified

ISO 9001:2000 Internal Quality Management Systems Auditor.

Certified by Lloyd's Register Quality Services 2007

Certifications / Training

Introduction to Federal Projects and Historic Preservation Law, GSA Interagency Training Center

ODOT Section 106/National Register Eligibility Training, ODOT

Section 106 in the New Regulatory Environment, SRI Foundation

Previous Industry Experience

GAI Consultants, 2008-Present

KCI Technologies, Inc., 1999-2008

Big Blue Archaeological Research, LLC, 1997-1998

West Virginia State Historic Preservation Office, 1995-1997

KCI Technologies, Inc., 1990-1995

Professional Summary

Mr. Sutton has 33 years of specializing in the management and protection of environmental resources throughout West Virginia, Ohio, Pennsylvania, Virginia, Kentucky, Georgia, Maine, Vermont and Maryland.

Professional Experience

Senior Construction Support Specialist (2017-Present)

- Responsibilities include the scheduling and management of a group of Environmental Inspectors involved in the field inspection of active construction and post-construction projects located within West Virginia and Ohio. Also responsible for Client coordination on upcoming project permitting and in-progress and post-construction project activities, as well as relaying compliance issues identified as part of project inspections. Other duties include continuing personal inspection on-going projects to identify issues of environmental non-compliance as applicable under State and Federal Regulations and Permitting. Results of these inspections findings were utilized in the preparation of project specific reports for submission to Clients. In addition, these findings of deficiencies were often relayed to project contractors and used to help develop corrective measures to these deficiencies. In addition, serves as a direct liaison between WVDEP inspectors and Client representatives.

Environmental Inspector (2015-2017)

- Field inspection of active construction and post-construction projects located within West Virginia. Duties include the field inspection of various projects to identify issues of environmental non-compliance as applicable under State and Federal Regulations and Permitting. Results of these inspections findings were utilized in the preparation of project specific reports for submission to Clients. In addition, these findings of deficiencies were often relayed to project contractors and used to help develop corrective measures to these deficiencies.

Project Archaeologist (2008-2015)

- Responsibilities included the application of National Historic Preservation Act criteria, as well as various state conservation and protection statutes, to numerous categories of projects throughout the Mid-Atlantic Region. Duties ranged from the preparation of Initial Consultation packages for agency submission through Phase I, II and III work-plan development and field implementation and final report preparation. Included are projects initiated by both private and public-sector organizations.

Cultural Resources Manager (1999-2008)

- Field evaluation for and subsequent reporting of resources impacts related from mining, pipeline, transportation expansion, cell tower construction and public/commercial development throughout West Virginia, Pennsylvania, Maryland, Virginia, Georgia and Ohio.

Cultural Resources Compliance Specialist (1997-1998)

- Responsibilities included the review of impacts of proposed mining-related activities throughout West Virginia. These impacts were associated with both proposed, permit-related mining activities by private firms, as well as reclamation activities being conducted by the Abandoned Mine Lands Section of the West Virginia Department of Environmental Protections.

Field Technician (1990-1997)

- Conducting cultural resources compliance projects throughout West Virginia, Pennsylvania, Virginia, Maryland, Ohio, Maine, and Vermont

APPENDIX C

SIGNED SOLICITATION/ADDENDUM ACKNOWLEDGMENT FORMS

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

State of West Virginia
Centralized Expression of Interest
Architect/Engr

Proc Folder: 1257392			**Reason for Modification:**
Doc Description: EOI - 2023 AML Contract N2			
Proc Type: Central Purchase Order			
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2023-08-09	2023-08-29 13:30	CEOI 0313 DEP2400000006	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code: 000000160372

Vendor Name : GAI Consultants, Inc.

Address : Charleston Office

Street : 500 Lee Street East, Suite 700

City : Charleston

State : West Virginia **Country :** United States **Zip :** 25301

Principal Contact : Jason Gandee

Vendor Contact Phone: 681.245.6484 **Extension:**

FOR INFORMATION CONTACT THE BUYER
Joseph E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

Vendor Signature X Kent C. Cockley

Digitally signed by Kent C. Cockley
DN: E=k.cockley@gaiconsultants.com, CN=Kent C. Cockley
Date: 2023.08.28 08:41:25-04'00'

EJH--Ok

FEIN# 25-1260999 **DATE** August 28, 2023

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

ADDITIONAL INFORMATION
The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML) ("Agency"), from qualified firms to provide architectural/engineering services for planning, realty, design, and construction oversight aspects as needed for each project per the attached specifications and terms and conditions.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Bridgeport (Tomes) Landslide		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Bridgeport (Tomes) Landslide

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
2	Burl Gould Highwall		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Burl Gould Highwall

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
3	Burl Gould Landslides		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Burl Gould Landslides

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
4	Fairmont (Windsor Dr) Subsidence & Highwall		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Fairmont (Windsor Dr) Subsidence & Highwall

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
5	Falls Run (Abruzzino) DH & DS		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Falls Run (Abruzzino) DH & DS

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
6	Glade Run Highwall		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Glade Run Highwall

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
7	Glade Run Landslides		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Glade Run Landslides

SCHEDULE OF EVENTS

Line	Event	Event Date

EXPRESSION OF INTEREST

2023 AML Contract N2

TABLE OF CONTENTS:

SECTION ONE: GENERAL INFORMATION

1. **PURPOSE:** The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML) ("Agency"), from qualified firms to provide architectural/engineering services ("Vendors") as defined herein.

2. **PROJECT:** The purpose of the Group of Projects (as listed below 1 through 7) for which bids are being solicited is to provide the professional services for planning, realty, design, and construction oversight aspects as needed for each project ("Project"), as applicable:

    1) Bridgeport (Tomes) Landslide
    2) Burl Gould Highwall
    3) Burl Gould Landslides
    4) Fairmont (Windsor Dr) Subsidence & Highwall
    5) Falls Run (Abruzzino) DH & DS
    6) Glade Run Highwall
    7) Glade Run Landslides

EXPRESSION OF INTEREST

2023 AML Contract N2

SECTION TWO: INSTRUCTIONS TO VENDORS SUBMITTING BIDS

Instructions begin on the next page.

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

☑ A pre-bid meeting will not be held prior to bid opening

☐ A **MANDATORY PRE-BID** meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted emails should have the solicitation number in the subject line.

Question Submission Deadline: NA

Submit Questions to:
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-3970
Email:

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted on or before the date and time of the bid opening listed in section 7 below. Vendors can submit bids electronically through *wv*OASIS, in paper form delivered to the Purchasing Division at the address listed below either in person or by courier, or in facsimile form by faxing to the Purchasing Division at the number listed below. Notwithstanding the foregoing, the Purchasing Division may prohibit the submission of bids electronically through *wv*OASIS at its sole discretion. Such a prohibition will be contained and communicated in the *wv*OASIS system resulting in the Vendor's inability to submit bids through *wv*OASIS. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via email. Bids submitted in paper or facsimile form must contain a signature. Bids submitted in *wv*OASIS are deemed to be electronically signed.

Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason.

For Request for Proposal ("RFP") Responses Only: Submission of a response to a Request for Proposal is not permitted in *wv*OASIS. In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal prior to the bid opening date and time identified in Section 7 below, plus NA convenience copies of each to the Purchasing Division at the address shown below. Additionally, the Vendor should clearly identify and segregate the cost proposal from the technical proposal in a separately sealed envelope.

Bid Delivery Address and Fax Number:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130
Fax: 304-558-3970

A bid submitted in paper or facsimile form should contain the information listed below on the face of the submission envelope or fax cover sheet. Otherwise, the bid may be rejected by the Purchasing Division.

VENDOR NAME: GAI Consultants, Inc.
BUYER: Josh Hager
SOLICITATION NO.: CEOI 0313 DEP2400000006
BID OPENING DATE: See next page
BID OPENING TIME: See next page
FAX NUMBER: 304-558-3970

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by *wv*OASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: 08/29/2023 @ 1:30 PM ET

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATE MODEL OR BRAND: Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

☐ This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the $125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and must include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at: www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. Any request for reciprocal preference must include with the bid any information necessary to evaluate and confirm the applicability of the preference. A request form to help facilitate the request can be found at: www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37 and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women- owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in *wv*OASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform or lacks the integrity and reliability to assure good-faith performance."

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b."

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

22. WITH THE BID REQUIREMENTS: In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

23. EMAIL NOTIFICATION OF AWARD: The Purchasing Division will attempt to provide bidders with e-mail notification of contract award when a solicitation that the bidder participated in has been awarded. For notification purposes, bidders must provide the Purchasing Division with a valid email address in the bid response. Bidders may also monitor *wv*OASIS or the Purchasing Division's website to determine when a contract has been awarded.

24. ISRAEL BOYCOTT CERTIFICATION: Vendor's act of submitting a bid in response to this solicitation shall be deemed a certification from bidder to the State that bidder is not currently engaged in, and will not for the duration of the contract, engage in a boycott of Israel. This certification is required by W. Va. Code § 5A-3-63.

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SECTION THREE: PROJECT SPECIFICATIONS

1. **Background:** Firms are to be licensed Architectural/Engineering Firms (A/E) in the State of West Virginia and either the firm or its sub-contractors within a given field must have successful track record of permitting and designing reclamation projects, realty, and construction inspection. The anticipated contract will be for "full service" A/E planning, realty, design, and construction oversight. The expectation is the successful A/E firm will be able to call upon a team of professionals for each discipline, whether internal or subcontracted, that can provide each discipline's deliverables with a minimum of supervision. All deliverables will need to be uploaded into AMLNET (WVDEP-DLR-AML online record-keeping database) by the successful A/E firm for each discipline. The expectation is the successful A/E firm will be providing a schedule, tracking work to that schedule, and providing regular updates as to progress with a minimum of State oversight.

   Note: No further work beyond attending the EOI interview is asked or expected of any firm. Firms are not compensated for attending the EOI interview, regardless of the outcome.

   Locations: Projects are in Harrison and Marion Counties.

   The sites are around multiple residences; potential vendors are not to show up on occupied residences. Site visits may be performed with the highest scoring Vendor during the negotiation phase of this solicitation.

   Project 1: Bridgeport (Tomes) Landslide is located east of the Town of Quiet Dell, in Harrison County, WV. Approximate coordinates are 39.218556°, -80.254722°. The project is for the remediation of a dangerous slide, clogged steam, and drainage design.

   Project 2: Burl Gould Highwall is located east of the Town of Quiet Dell, in Harrison County, WV. Approximate coordinates are 39.208917°, -80.250667°. The project is for the remediation of a dangerous highwall, dangerous slides below the highwall, clogged stream, spoil piles, and drainage design.

   Project 3: Burl Gould Landslides is located east of the Town of Quiet Dell, in Harrison County, WV. Approximate coordinates are 39.207528°, -80.252306°. The project is for the remediation of a dangerous highwall, dangerous slides, hazardous waterbody, spoil piles, and drainage design.

   Project 4: Fairmont (Windsor Dr) Subsidence & Highwall is located in the City of Fairmont, in Marion County, WV. Approximate coordinates are 39.493739°, -80.127156°. The project is for the remediation of subsidence near homes and a dangerous highwall.

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Project 5: Falls Run (Abruzzino) DH & DS is located east of the Town of Quiet Dell, in Harrison County, WV. Approximate coordinates are 39.212139°, -80.255861°. The project is for the remediation of a dangerous highwall, a dangerous slide, and drainage design.

Project 6: Glade Run Highwall is located west of the Town of Brownton, in Harrison County, WV. Approximate coordinates are 39.214333°, -80.205778°. The project is for the remediation of dangerous highwalls, hazardous waterbodies, and drainage design.

Project 7: Glade Run Landslides is located west of the Town of Brownton, in Harrison County, WV. Approximate coordinates are 39.217194°, -80.209056°. The project is for the remediation of dangerous slides and drainage design.

2. **Project and Goals:** The project goals and objectives include but are not limited to those listed below. Vendors should discuss any anticipated concepts and proposed methods of approach for achieving each of the listed goals and objectives:

   Aspects of all Work shall comply with Infrastructure Investment Jobs Act (IIJA), including compliance with the Davis-Bacon and Build America, Buy America (BABA), as applicable and all Federal, State, and Local laws.

   Aspects of the Planning Work encompasses all related consultations, investigations, report generation, applications, etc. required to perform the Work, which may include, but may not be limited to: National Environmental Policy Act (NEPA) consultations, West Virginia Division of Natural Resources (WVDNR) consultation, West Virginia Historic Preservation Office (SHPO) consultation, WV Regional Planning consultation, US Forest Service consultations, US Fish and Wildlife Service (USFWS) consultations, and any other consultation(s) or permit(s) needed to perform the Work. The above includes but is not limited to: bat studies, threatened and endangered species investigation / analysis / report generation, water quality sampling, and data collection / analysis.

   Aspects of the Realty Work encompass all necessary research and subsequent right of entry agreements being set into place for the sites to be sufficiently – legally – investigated, designed, and for a final design to be constructed. This may include but may not be limited to: performing courthouse research to determine legal property ownership and dutifully documenting the findings, obtaining Exploratory Rights of Entry (EROE) from affected landowners, obtaining Construction Rights of Entry (CROE) from landowners, keeping logs of all conversations with landowners, data collection, reporting, and possessing the capability of having boundary surveys performed on an as-needed basis. The successful A/E firm must obtain the rights of entry prior to performing any fieldwork on-site, and these rights of entry must include the successful A/E firm, the WVDEP-DLR-AML, and Office of Surface Mining Reclamation & Enforcement (OSMRE).

Aspects of the Design Work may include, but may not be limited to: Civil, Geological, Hydrological, Survey (mapping), Process, Structural, Electrical, etc., as applicable. This encompasses all required engineering and survey (including current mapping and other related services) necessary to successfully design an engineered, permanent solution that fully addresses the issues / problems that each project presents. This also includes site and geotechnical investigations. Each design must fully remove / mitigate dangers to private individuals or the public that are currently present, not introduce new dangers, and be stamped by a Registered Professional Engineer in the State of West Virginia for design and Registered Professional Surveyor in the State of West Virginia for survey for deliverables. Design Work includes but is not limited to: National Pollutant Discharge Elimination System (NPDES) construction stormwater General Permit registration, West Virginia Department of Highways (WVDOH) MM-109 encroachment permits, Army Corps of Engineers (USACE) consultations, Department of Health Permits (for water lines, if applicable), and county permits as applicable, including floodplain permits. Design Work could include but is not limited to: developing construction plans and technical specifications for all aspects to reclaim mine portals, drainage controls and systems, slope stabilization, coal refuse and mine spoil reclamation, stream and / or channel restoration, subsidence repair, temporary and permanent access or accesses for construction and future maintenance, storm water and erosion and sediment control, regrading and revegetation, any required water treatment systems, and any remediation for all other conditions encountered on the project sites. Obtain/maintain/release all required permits.

Aspects of the Construction Oversight Work may include but may not be limited to: Daily Inspection with documentation for the duration of the Construction and through the warranty period until final release, Engineering Oversight / Support, review, and approval of contractor-provided as-builts, and Final Engineer's Certification Report of the project.

3. **Qualifications, Experience, and Past Performance:** Vendors should provide information regarding its employees, such as staff qualifications and experience in completing similar projects; references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and the project goals and objectives and how they were met.

   The response should be presented in concise format which defines the corporation history and the experience, qualifications, and performance data of the firm's staff as requested by the AML Consultant Qualification Questionnaire (CQQ), Attachment "A" and the AML and Related Project Experience Matrix (RPEM), Attachment "B".

   AML Consultant Qualification Questionnaire (CQQ) should be completed and submitted

with Vendor's submitted response to be eligible (**See Attachment "A"**).
AML and Related Project Experience Matrix (RPEM) should also be completed and submitted with Vendor's submitted response to be eligible (**See Attachment "B"**).

4. **Oral Presentations/Interviews:** The Agency will conduct individual interviews with the three vendors that are determined to be the most qualified to provide the required service. During oral presentations/interviews, vendors may not alter or add to their submissions, but only clarify information already submitted. A description of the materials and information to be presented is provided below:

4.1. Materials and Information Required at Oral Presentation/Interviews:

An Oral Presentation will be conducted with the firms selected as the most qualified by the WVDEP-DLR-AML Selection Committee. The Committee will schedule the interviews.

The format for the interviews will be a 30 to 45-minute PowerPoint presentation consisting, at a minimum, of the following:

- Corporate/personnel experience as it relates to the project or projects
- Proposed project management plan
- Key personnel available for the proposed work
- Proposed subcontractors (mapping, geotechnical, planning, realty, inspection, etc.)
- Product quality control
- Project cost control
- Project Schedule

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SECTION FOUR: VENDOR PROPOSAL, EVALUATION, & AWARD

1. **Economy of Preparation:** EOIs should be prepared simply and economically, providing a straight-forward, concise description of the firm's abilities to satisfy the requirements and goals and objectives of the EOI. Emphasis should be placed on completeness and clarity of content. The response sections should be labeled for ease of evaluation.

2. **BIDS MUST NOT CONTAIN PRICE INFORMATION:** The State shall select the best value solution according to W. Va. Code §5G-1-3. In accordance with Code requirements, no "price" or "fee" information is permitted in the Vendor's EOI response.

3. **Evaluation and Award Process:** Expressions of Interest for projects estimated to cost $250,000 or more will be evaluated and awarded in accordance with W.Va. Code §5G-1-3. That Code section requires the following related to evaluation and award:

3.1. **Selection Committee Evaluation and Negotiation:** A committee comprised of three to five representatives of the agency initiating the request shall:

3.1.1. evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service.

3.1.2. conduct interviews with each of the three firms selected.

3.1.3. rank the three selected firms in order of preference.

3.1.4. and commence scope of service and price negotiations with the highest qualified professional firm.

If negotiations are successful, the contract documents will be forwarded to the WV Purchasing Division for review and approval, and then to the WV Attorney General's office for review and approval as to form. Once approved, a formal contract will be issued to the Vendor.

Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified at a fee determined to be fair and reasonable, the agency will then commence negotiations with the second most qualified firm, and so on, until an agreement is reached, or the solicitation is cancelled.

3.2. **Firm Evaluation Rankings:** The Agency will evaluate the firms (including any subcontractors) that have been determined most qualified to perform the desired

service. The evaluation criteria are defined in the Project Specifications section and based on a 100-point total score. Points shall be assigned based upon the Vendor's response to the evaluation criteria as follows:

• Understanding of Project Scope	(25) Points Possible
• Relevant Experience	(25) Points Possible
• Available Resources a. Current Staffing b. Location of Offices (and relevant headcount) c. Current and Future Workload Commitments	(25) Points Possible
• Performance History	(25) Points Possible
Total	100

3.3. **Contractor Information Form (AVS):** Vendor must complete an AVS (Applicant Violator System) form to request an eligibility evaluation from the Office of Surface Mining Reclamation and Enforcement. This requirement applies to contractors and their sub-contractors and is found under OSMRE's regulations at 30 CFR 874.16. Vendor must sign and date it. Form must be completed within 30 days of award to be considered for award. The completion of the form will be requested by the Agency after evaluation and prior to award of the purchase order.

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SECTION FIVE: TERMS AND CONDITIONS

Terms and conditions begin on the next page.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of an Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance by the State of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid, or on the Contract if the Contract is not the result of a bid solicitation, signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or **"Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or **"Proposal"** means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or **"Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☐ **Term Contract**

Initial Contract Term: The Initial Contract Term will be for a period of _____ _____. The Initial Contract Term becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as _____), and the Initial Contract Term ends on the effective end date also shown on the first page of this Contract.

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to _____ successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

☐ **Alternate Renewal Term** – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that:

☐ the contract will continue for _____ years;

☐ the contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's Office (Attorney General approval is as to form only).

☐ **One-Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☑ **Construction/Project Oversight:** This Contract becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as _____), and continues until the project for which the vendor is providing oversight is complete.

☐ **Other:** Contract Term specified in _____

4. AUTHORITY TO PROCEED: Vendor is authorized to begin performance of this contract on the date of encumbrance listed on the front page of the Award Document unless either the box for "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked in Section 3 above. If either "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked, Vendor must not begin work until it receives a separate notice to proceed from the State. The notice to proceed will then be incorporated into the Contract via change order to memorialize the official date that work commenced.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☐ **Open End Contract:** Quantities listed in this Solicitation/Award Document are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☑ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One-Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

☐ **Construction:** This Contract is for construction activity more fully defined in the specifications.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One-Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked in this section must be provided to the Purchasing Division by the Vendor as specified:

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

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The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether that insurance requirement is listed in this section.

Vendor must maintain:

☑ **Commercial General Liability Insurance** in at least an amount of: $1,000,0000.00 per occurrence.

☑ **Automobile Liability Insurance** in at least an amount of: $1,000,0000.00 per occurrence.

☑ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: $1,000,0000.00 per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

☐ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.

☐ **Cyber Liability Insurance** in an amount of: _____ per occurrence.

☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

☐ **Pollution Insurance** in an amount of: _____ per occurrence.

☐ **Aircraft Liability** in an amount of: _____ per occurrence.

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9. WORKERS' COMPENSATION INSURANCE: Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. VENUE: All legal actions for damages brought by Vendor against the State shall be brought in the West Virginia Claims Commission. Other causes of action must be brought in the West Virginia court authorized by statute to exercise jurisdiction over it.

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☐ _____ for _____.

☐ Liquidated Damages Contained in the Specifications.

☐ Liquidated Damages Are Not Included in this Contract.

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payments for goods/services will be made in arrears only upon receipt of a proper invoice, detailing the goods/services provided or receipt of the goods/services, whichever is later. Notwithstanding the foregoing, payments for software maintenance, licenses, or subscriptions may be paid annually in advance.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia, included in the Contract, or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available. If that occurs, the State may notify the Vendor that an alternative source of funding has been obtained and thereby avoid the automatic termination. Non-appropriation or non-funding shall not be considered an event of default.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence regarding all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code, or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

> **SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it 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/default.html.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor 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 agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

> **SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to 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 Vendor.

34. VENDOR NON-CONFLICT: Neither Vendor nor its representatives are permitted to have any interest, nor shall they acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. NO DEBT CERTIFICATION: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State. By submitting a bid, or entering into a contract with the State, Vendor is affirming that (1) for construction contracts, the Vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, neither the Vendor nor any related party owe a debt as defined above, and neither the Vendor nor any related party are in employer default as defined in the statute cited above unless the debt or employer default is permitted under the statute.

38. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

39. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☑ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.division@wv.gov.

40. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check. Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

41. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.

b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process.

c. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

    1. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars ($2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

    2. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

42. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars ($50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

43. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least $1 million, the Vendor must submit to the Agency a disclosure of interested parties prior to beginning work under this Contract. Additionally, the Vendor must submit a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-work interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

44. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

45. VOID CONTRACT CLAUSES: This Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

46. ISRAEL BOYCOTT: Bidder understands and agrees that, pursuant to W. Va. Code § 5A-3-63, it is prohibited from engaging in a boycott of Israel during the term of this contract.

ADDITIONAL TERMS AND CONDITIONS
(Architectural and Engineering Contracts Only)

1. PLAN AND DRAWING DISTRIBUTION: All plans and drawings must be completed and available for distribution at least five business days prior to a scheduled pre-bid meeting for the construction or other work related to the plans and drawings.

2. PROJECT ADDENDA REQUIREMENTS: The Architect/Engineer and/or Agency shall be required to abide by the following schedule in issuing construction project addenda. The Architect/Engineer shall prepare any addendum materials for which it is responsible, and a list of all vendors that have obtained drawings and specifications for the project. The Architect/Engineer shall then send a copy of the addendum materials and the list of vendors to the State Agency for which the contract is issued to allow the Agency to make any necessary modifications. The addendum and list shall then be forwarded to the Purchasing Division buyer by the Agency. The Purchasing Division buyer shall send the addendum to all interested vendors and, if necessary, extend the bid opening date. Any addendum should be received by the Purchasing Division at least fourteen (14) days prior to the bid opening date.

3. PRE-BID MEETING RESPONSIBILITIES: The Architect/Engineer shall be available to attend any pre-bid meeting for the construction or other work resulting from the plans, drawings, or specifications prepared by the Architect/Engineer.

4. AIA DOCUMENTS: All construction contracts that will be completed in conjunction with architectural services procured under Chapter 5G of the West Virginia Code will be governed by the attached AIA documents, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein. The terms and conditions of this document shall prevail over anything contained in the AIA Documents or the Supplementary Conditions.

5. GREEN BUILDINGS MINIMUM ENERGY STANDARDS: In accordance with West Virginia Code § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

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

(Printed Name and Title) Jason Gandee, Engineering Manager/Associate

(Address) 500 Lee Street East, Suite 700, Charleston, West Virginia 25301

(Phone Number) / (Fax Number) 581.245.6484 / 304.926.8180

(Email address) j.gandee@gaiconsultants.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through *wv*OASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

GAI Consultants, Inc.

(Company) Kent C. Cockley Digitally signed by Kent C. Cockley DN: E=k.cockley@gaiconsultants.com, CN=Kent C. Cockley Date: 2023.08.28 08:41:41-04'00' EJH--Ok

(Signature of Authorized Representative)

Kent Cockley, PE, MS, Vice President/Business Sector Leader, Power Generation / 8/28/2023

(Printed Name and Title of Authorized Representative) (Date)

412.399.5418 / 412.476.2020

(Phone Number) (Fax Number)

k.cockley@gaiconsultants.com

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI 0313 DEP2400000006

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

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

Addendum Numbers Received:
(Check the box next to each addendum received)

☐ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

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

GAI Consultants, Inc.

Company

EJH--Ok

Kent C. Cockley

Digitally signed by Kent C. Cockley
DN: E=k.cockley@gaiconsultants.com, CN=Kent C. Cockley
Date: 2023.08.28 08:41:35-04'00'

Authorized Signature

8/28/2023

Date

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

APPENDIX D

AML CONSULTANT QUALIFICATION QUESTIONNAIRE

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE **Attachment "A"**

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
2023 AML Contract N2	22 August 2023	25-1260999

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
GAI Consultants, Inc.	385 E. Waterfront Drive Homestead, PA 15120	General Analytics, Inc.

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YR)	5. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
412.476.2000	1958	Individual X Corporation Partnership Joint-Venture	YES X NO

6. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE
500 Lee Street, Suite 700; Charleston, West Virginia 25301 / 304.926.8100 / Jason Gandee
Charleston, WV: 10; Bridgeport, WV: 10; Pittsburgh, PA: 30

7. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS
Anthony Morrocco, President: 412.399.5197 Gary DeJidas, CEO: 321.319.3020	Stephen Gould, Executive VP/President, Power & Energy: 412.399.5192 Karl Palvisak, Sr. VP / Treasurer / Secretary: 321.319.3021

9. PERSONNEL BY DISCIPLINE

120 ADMINISTRATIVE	6 ECOLOGISTS	13 LANDSCAPE ARCHITECTS	12 STRUCTURAL ENGINEERS
0 ARCHITECTS	3 ECONOMISTS	6 MECHANICAL ENGINEERS	10 SURVEYORS
11 BIOLOGIST	16 ELECTRICAL ENGINEERS	10 MINING ENGINEERS	17 TRAFFIC ENGINEERS
51 CADD OPERATORS	86 ENVIRONMENTALISTS	0 PHOTOGRAMMETRISTS	195 OTHER
0 CHEMICAL ENGINEERS	5 ESTIMATORS	14 PLANNERS: URBAN/REGIONAL	
137 CIVIL ENGINEERS	12 GEOLOGISTS	0 SANITARY ENGINEERS	
37 CONSTRUCTION INSPECTORS	3 HISTORIANS	1 SOILS ENGINEERS	
30 DESIGNERS	12 HYDROLOGISTS	4 SPEC WRITERS	811 TOTAL PERSONNEL
0 DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 5
***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

Since 1985, GAI has completed more than 140 projects for the WVDEP-AML&R. **GAI's proposed Project Manager, Mr. Jason Gandee**, out of our Charleston office, has 16 years of experience and **has worked on over 25 reclamation projects for the WVDEP-DLR-AML**, where he was responsible for site reconnaissance, monitoring subsurface exploration drilling, and final design drawings, technical specifications, cost estimates, and conducting pre-bid and pre-construction meetings with contractors. **Mr. Gandee is currently the Project Manager for the WVDEP-DLR-AML's Belle (Sneed) Drainage Project. GAI's proposed Project Advisor, Charles Straley, PE, PLS, MS**, out of our Charleston Office, **has worked on over 95 AML projects for the WVDEP, and has managed 71 of these projects.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ YES ☐ NO ☒ NA

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Qualification Questionnaire".		
NAME AND ADDRESS: EnviroProbe Integrated Solutions 963 Canyon Road Morgantown, West Virginia 26508	SPECIALTY: Subsurface Drilling	WORKED WITH BEFORE __X__Yes No
NAME AND ADDRESS: Geotechnics, Inc. 544 Braddock Avenue East Pittsburgh, Pennsylvania 15112	SPECIALTY: Construction Materials Testing	WORKED WITH BEFORE __X__Yes No
NAME AND ADDRESS: Eagle Surveying 1266 Berry Hills Drive Charleston, West Virginia 25314	SPECIALTY: Surveying	WORKED WITH BEFORE __X__Yes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____Yes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____Yes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____Yes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____Yes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____Yes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____Yes No

12. A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: GAI has completed 144 projects for the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML) over the past 37 38 years. GAI has completed over 175 projects for Abandoned Mine Land (AML) Programs (West Virginia, Pennsylvania, Virginia, Maryland, and Office of Surface Mining). These projects include remediation design of abandoned refuse piles, landslides, abandoned portals, demolition of facilities, design of drainage control structures, mine fires, subsidence issues, highwalls, acid mine drainage, and revegetation plans.

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: GAI has completed over 250 projects that required soil analysis for revegetation plans, acid base counts, foundation stability analysis, engineering properties, etc. Most of the 140+ WVDEP-DLR-AML projects required some type of soil analysis. GAI has completed analysis both in-house and with subconsultants, depending on requirements.

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: GAI has completed over 300 projects which involve hydrology and hydraulics, including projects that were mining related. Most of the 140+ WVDEP-DLR-AML projects required hydrologic and hydraulic evaluations and design for drainage control structures, mine hydraulic level, mainstream event, water transmission, and erosion and sedimentation control. GAI is also experienced and trained in natural stream restoration and wetland mitigation.

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects: GAI has produced contour mapping on most of our 175+ projects completed for AML Programs. We subcontract our aerial photography if it is not already available.

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: GAI has completed over 100 projects involving domestic waterline design, of which, 44 were for the WVDEP-DLR-AML program. This has included aquifer degradation evaluation and waterline design, Public Service District interaction, PSC requirements, and Health Department permits, to include field surveys, field inspection, and public hearings and meetings. Aquifer degradation and waterline design were the primary components of these projects.

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

YES Description and Number of Projects: GAI has completed approximately 130 Acid Mine Drainage (AMD) evaluations and abatement designs, of which 27 were for the WVDEP-DLR-AML program. Additionally, AMD was a consideration on most of the 140+ WVDEP-DLR-AML projects that GAI has worked on, which have included grouting programs, SAP installations, and innovative abatement design.

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Gandee, Jason, G. Engineering Manager	13	16	3

Brief Explanation of Responsibilities

Mr. Gandee is GAI's proposed Project Manager for this Project. He will manage this Project from GAI's Charleston, WV Office, and will be responsible for day-to-day project activities and guidance of the GAI Project Team. His main activities will include development of Project work plans to ensure oversee that Project activities are completed on budget and on time; reviewing work product at intermediate points and at Project completion; providing guidance and direction to Project staff; as well as assisting with engineering and design work. Mr. Gandee has experience working on over 25 AML or related projects and is currently the Project Manager for the WVDEP Belle (Sneed) Drainage Project.

EDUCATION (Degree, Year, Specialization)

BS, 2007, Civil Engineering Technology, West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers (ASCE)	

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Straley, Charles, F. Senior Engineering Manager	35	37	37

Brief Explanation of Responsibilities

Mr. Straley, PE, PLS, MS, is GAI's proposed Project Advisor for this Project. He has managed and/or provided design services for over 95 AML projects for the WVDEP-AML&R. Mr. Straley will provide his expertise in the areas of geotechnical engineering, subsurface investigation, mining, soil and rock mechanics, subsidence exploration, foundation and embankment design, slop stability and landslide engineering, acid mine drainage, water feasibility studies, and material construction specifications.

EDUCATION (Degree, Year, Specialization)

MS, 1988, Geotechnical Engineering, University of Akron

BS, 1986, Civil Engineering, University of Akron

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
ACEC, WV Contractor's Association of WV National Society of Professional Engineers	Professional Engineer (PE), 1993, WV Professional Engineer (PE), 1995, OH Professional Engineer (PE), 1996, KY Professional Engineer (PE), 2007, IN Professional Engineer (PE), 2022, VA Professional Engineer (PE), 2023, TX, MI Professional Land Surveyor (PLS), 1996, WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Splitstone, Donald, E. Senior Engineering Manager	25	27	0

Brief Explanation of Responsibilities

Mr. Splitstone, PE, is GAI's proposed Lead Geotechnical Engineer for this Project and will provide his expertise in this area. He is an Engineering Manager in GAI's Geotechnical Engineering Group who specializes in design and construction of geotechnical projects for transportation, transit, railroad, government, and private clients. He has over 27 years of engineering experience developing geotechnical investigations, treatment schemes, details, plans, and specifications for various design projects. He is a licensed Professional Engineer in West Virginia, Ohio, Pennsylvania, and Florida. Mr. Splitstone has been involved in analysis, design, and report preparation for a multitude of projects including shallow and deep (driven and drilled) foundations, various types of retaining walls and support of excavation (SOE), embankment and cut-slope stability, and flexible and rigid structural pavement.

EDUCATION (Degree, Year, Specialization)

Graduate Studies, Geotechnical Engineering, 1998-2002, University of Pittsburgh
BS, 1998, Civil and Environmental Engineering, University of Pittsburgh
BS, 1996, Engineering Physics, Miami University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers (ASCE) Geo-Institute	Professional Engineer (PE), 2015, WV Professional Engineer (PE), 2004, PA Professional Engineer (PE), 2015, OH Professional Engineer (PE), 2020, FL

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Fisher, Shane, A. Assistant Engineering Manager	2	31	0

Brief Explanation of Responsibilities

Mr. Fisher, PE, is GAI's proposed Lead Civil Engineer for this Project and will provide his expertise in this area. His AML experience includes performing design and cost estimating for AML and industrial wastewater projects. He will oversee the civil engineering aspects of this Project and will be responsible for the preparation of construction drawings, technical specifications, calculations, and cost estimates. Mr. Fisher specializes in civil engineering, roadways, drainage systems, sanitary and industrial water and wastewater systems, and environmental permitting. He also manages erosion and sediment control, construction stormwater projects, and permitting.

EDUCATION (Degree, Year, Specialization)

BS, 2005, Civil Engineering Technology, Fairmont State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers (ASCE), WV Northern Branch – President; American Society of Highway Engineers (ASHE)	Professional Engineer (PE), 2012, WV Professional Engineer (PE), 2017, VA Professional Engineer (PE), 2017, NC Professional Engineer (PE), 2018, MD

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Sollenberger, Nolan, R. Project Geological Specialist	2	5	0

Brief Explanation of Responsibilities

Mr. Sollenberger serves as a Project Geological Specialist for GAI's Power Generation Group and will be the Lead Geologist for this Project. He specializes in environmental consulting with experience in groundwater sampling, soil logging and sampling, monitoring well construction and installation, sinkhole investigations, spill responses, vapor monitoring, environmental site assessments, and has assisted with drilling operations. He has also authored quarterly Remedial Action Progress and Completion Reports, Site Characterization Reports, Remedial Action Plan Reports, and Act 2 Reports. He is proficient with PID meter, groundwater pumps, and various hand and power tools. Mr. Sollenberger is currently performing geological services for the WVDEP Belle (Sneed) Drainage Project.

EDUCATION (Degree, Year, Specialization)
BS, 2016, Geology, West Virginia University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Berkes, Mary Beth, E. Assistant Civil Technical Leader	0	14	0

Brief Explanation of Responsibilities

Ms. Berkes, PE, MS, is GAI's proposed Hydrology and Hydraulics Engineering/Stream & Wetland Restoration Lead for this Project and will provide her expertise in this area. She is an Assistant Civil Technical Leader with GAI and has over 14 years of experience specializing in stream restoration design, hydrologic and hydraulic analyses, inundation studies and investigations, coastal engineering, and design of hydraulic structures. She has completed training on Natural Channel (Rosgen Levels I through IV), hydrologic and hydraulic permitting and procedures, and advanced HEC-RAS scour analyses. She is proficient in HEC-RAS, HY-8, HEC-HMS, Hydraflow Hydrographs, DamSites, PondPack, StormCAD, and AutoCAD. She was awarded the 2018 Young Professional of the Year by the Society of American Military Engineers.

EDUCATION (Degree, Year, Specialization)
MS, 2010, Civil Engineering, Oregon State University
BS, 2008, Civil Engineering, University of Pittsburgh

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society of American Military Engineers (SAME)-Pittsburgh Post Women's Energy Network (WEN)	Professional Engineer (PE), 2015, WV Professional Engineer (PE), 2021, IN Professional Engineer (PE), 2019, KY Professional Engineer (PE), 2019, OH Professional Engineer (PE), 2014, PA Professional Engineer (PE), 2022, WI

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Cook, Charles, A. Senior Project Environmental Specialist	0	16	0

Brief Explanation of Responsibilities

Mr. Cook is GAI's proposed Environmental Studies Lead for this Project and will provide his expertise in this area. He will provide environmental services related to natural resources, including but not limited to wetland delineations, benthic studies, wetland restoration or mitigation, endangered species, revegetation, and stream restoration. Mr. Cook specializes in environmental and biological surveys and field assessments, including wetland delineations, jurisdictional stream determinations, vegetation surveys, benthic and water quality sampling, fish and herpetology studies and threatened and endangered species surveys. He is familiar with current West Virginia and federal regulations, including Section 401 and 404 permitting process (Clean Water Act), and Section 7 consultation (Endangered Species Act).

EDUCATION (Degree, Year, Specialization)
BS, 2006, Biology, West Virginia State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers (ASCE)	Approved WVDNR Surveyor for Running Buffalo Clover; Wetland Delineation Training – NC State University

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Mann, Adam, M. Environmental Manager	0	22	0

Brief Explanation of Responsibilities

Mr. Mann, MS, is GAI's proposed Endangered Species Biologist Lead for this Project. He specializes in wildlife zoology with a diverse background in herpetology, ornithology, ichthyology, and mammalogy. He has been involved in a variety of aquatic and terrestrial ecology research positions, working closely with bats, amphibians, reptiles, fish, mussels, birds, and aquatic invertebrates. He is familiar with the physiology, taxonomy, and ecology of many extant vertebrates and terrestrial plants. Mr. Mann's project management experience includes coordinating multiple field survey teams, maintaining contact with clients and regulatory agencies, and producing necessary follow-up documentation. Many of these projects concern federally endangered Indiana bats (*Myotis sodalis*) and federally threatened northern long-eared bats (*Myotis septentrionalis*). Mr. Mann is a federally permitted bat biologist and has held state permits and conducted projects within numerous states in the range of the Indiana bat and northern long-eared bat.

EDUCATION (Degree, Year, Specialization)
MS, 2007, Biology, Marshall University
BA, 1997, Thomas More College

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Northeast Bat Working Group Midwest Bat Working Group Southeast Bat Diversity Network Partners in Amphibian and Reptile Conservation (PARC)	Federally Permitted Bat Biologist State-Permitted Bat Biologist and Approved Bat Surveyor: WV, CT, GA, IN, IL, KY, MD, MO, NJ, NY, OH, PA, TN, and VA

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Resnick, Benjamin Assistant Vice President / Senior Director	0	43	0

Brief Explanation of Responsibilities

Mr. Resnick, RPA, MA, MBA, is GAI's Cultural Resources Group Manager, with 43 years of experience conducting and managing aspects of Section 106 (NHPA)and National Environmental Policy Act (NEPA) projects. This includes the completion of NEPA, NHPA, Section 4(f), and Federal Energy Regulatory Commission (FERC) compliance documents, feasibility studies, Phase I, Phase II, and Phase III archaeological investigations, criteria of effect evaluations, programmatic and memorandum of agreements, integrated cultural resources management plans, and historic preservation plans. Many of these studies were conducted as part of cultural resources or environmental indefinite quantity contracts / master service agreements for energy companies, state departments of transportation, and federal agencies.

EDUCATION (Degree, Year, Specialization)
MBA, 2013, Point Park University
MA, 1984, Anthropology/Public Service Archaeology
BA, 1980, Anthropology, University of Maryland

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society for Historical Archaeology (SHA) Council for Northeast Historical Archaeology Middle Atlantic Archaeology Conference	Register of Professional Archaeologists (RPA), 1999

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Holbert, Michael, L. Senior Engineering Manager	0	26	0

Brief Explanation of Responsibilities

Mr. Holbert, PE, is GAI's proposed Roadway and Traffic Engineering Lead for this Project. He has 26 years of experience in roadway and transportation engineering, including developing plans, specifications, and cost estimates; design studies; and preliminary and final engineering for numerous roadways and bridges. He is a licensed Engineer in West Virginia, Pennsylvania, and Maryland. Mr. Holbert is intimately familiar with local, state, and federal regulatory processes for roadway projects. His project management experience, combined with his 25 years of civil engineering and roadway and transportation engineering expertise, will aid in the successful completion of these projects in a timely, technically sound, and cost-efficient manner. Mr. Holbert was recently the Project Manager for the City of Morgantown's White Avenue Slip Project. Prior to working with GAI, Mr. Holbert worked for the WVDOH.

EDUCATION (Degree, Year, Specialization)
BS, 1996, Civil Engineering, West Virginia University, summa cum laude

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer (PE), 2001, WV Professional Engineer (PE), 2005, PA Professional Engineer (PE), 2017, MD

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Uber, Sean, D. Senior Survey Manager	0	28	0

Brief Explanation of Responsibilities

Mr. Uber, MBA, is GAI's proposed Survey Lead for this Project. He specializes in as-built and routing surveys, computer aided drafting and types of permitting required by the client. He has served the energy industry in environmental permitting and surveying capacities for 28 years. He has personally managed and/or performed surveying, Geographic Information System (GIS) and mapping related projects throughout the U.S. Mr. Uber has trained survey personnel with the latest surveying, mapping and GIS data collection hardware and software. These systems include robotic, auto tracking and reflectorless Electronic Distance Meter (EDM) total stations, GPS-RTK hardware and software, as well as computer aided drafting software. Mr. Uber has performed hundreds of miles of alignment plan and profile drawings, right-of-way plats, ALTA/ACSM Land Title Surveys, and as-built alignment surveys for energy companies throughout the region. He is experienced in both the field and office environments and this allows for a clear understanding of the demands of time sensitive projects.

EDUCATION (Degree, Year, Specialization)
MBA, 2019, Point Park University
BS, 1998, Parks & Recreation – Natural Resource Management, Slippery Rock University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Sutton, John, T. Senior Construction Support Specialist	0	33	0

Brief Explanation of Responsibilities

Mr. Sutton is the Construction Management Lead for this Project. He has 33 years of experience specializing in the management and protection of environmental resources throughout West Virginia. Mr. Sutton's responsibilities include the scheduling and management of a group of environmental inspectors involved in the field inspection of active construction and post-construction projects located within West Virginia and Ohio. He is also responsible for client coordination on upcoming project permitting and in-progress and post-construction project activities, as well as relaying compliance issues identified as part of project inspections. Other duties include continuing personal inspection on-going projects to identify issues of environmental non-compliance as applicable under state and federal regulations and permitting. He also serves as a direct liaison between WVDEP inspectors and client representatives.

EDUCATION (Degree, Year, Specialization)
BA, 1991, Anthropology, West Virginia University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) Confined Space Entry and Awareness Training Certified 40-Hour Hazardous Materials Training Certified

14. PROVIDE A LIST OF SOFTWARE/EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE USED TO COMPLETE AML DESIGN SERVICES

Design Software: AutoCAD/Civil 3D, MicroStation, Microsoft Office Suite, Sewer CAD, Water CAD, Hydrocalc Hydraulics, TR-55,Hydraulic Modeling Software, Maptech (Professional), SLOPE/W and Slide2 (Slope Stability), and GeoPack Design.

Cultural Resources Equipment and Software:

- 1,000 SF Laboratory, lighted by natural and artificial light, and contains storage cabinets and shelves, worktables, sinks, and computers
- 1,500+ SF Storage Facility for Long-Term Artifact Curation
- 6,000 SF Archaeological Storage Facility with Equipment Storage Areas
- Computer Equipment
- Flote-Tech Machine (for processing light and heavy fraction soil flotation samples)
- Portable Shelters and Heaters, allowing GAI archaeologists to work during the winter months
- In-House Library of approximately 10,000 volumes dealing with aspects of technical projects
- Mapping-Grade, Hand-Held Global Positioning System
- DSLR Cameras
- Smartphones
- Printers
- Mapping-Grade Handheld GPS Units
- Tablets with ArcGIS Field Maps Survey Software and Trimble Receivers
- Microsoft Office 365 Software
- Survey123 for ArcGIS Software
- AutoCAD Software

Equipment: Plotters, Digital Cameras, Digital Planimeters, Surveying Stations, GPS Units, Computers, Photocopiers, Printers, and Scanners.

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Belle (Sneed) Drainage Project; Town of Belle, Kanawha County, WV	WVDEP, Division of Land Restoration, Office of Abandoned Mine Lands 601 57th Street SE Charleston, WV 25304	Performing a Site Investigation; Designing Access for Construction and Future Maintenance Access; Design of Drainage Conveyances, including Drainage Channels, Underdrains, and/or other Controls to Safely Convey Water Off Site; and Condition and Revegetation Disturbed Areas	75,055 (fee)	80%
City of Wheeling Landfill Closure Cap Design Project; Landfill Site Characterization, Leachate Management and Closure Cap Design, and Construction Monitoring; Ohio County, WV	WVDEP, Office of Environmental Remediation 2031 Pleasant Valley Road, Fairmont, WV 26554	Surveying and Mapping; Site Reconnaissance; Records Review and Research; Subsurface Exploration and Testing; Characterization Report Preparation; Meetings; Design Development; Permitting; Construction Documents; Construction Monitoring; and QA/QC Testing	$934,080 (fee)	60%
Bridge Replacement Project; Phase 1 Design Study, Final Design, Contract Plans, and Related Documents; Braxton County, WV	Confidential Government Transportation Client West Virginia	Final Design and Contract Plans, Project Management and Coordination, Surveying, Final Hydraulics, Maintenance of Traffic, Roadway Design, Stormwater Management, Right-of-Way, and Geotechnical Engineering for the replacement of a bridge.	952,000 (fee)	95%
Bridge Project; Study, Design, and Preparation of Contract Plans and related Documents; McDowell County, WV	Confidential Government Transportation Client West Virginia	Final Design and Contract Plans, Project Management and Coordination, Geotechnical Engineering, Surveying, Preliminary Field Review, Right-of-Way Plans, QA/QC, Drainage, Permitting, Natural Resources, Structural Design for the construction of a new two-lane bridge.	$689,155 (fee)	75%
TOTAL NUMBER OF PROJECTS: 4		TOTAL ESTIMATED CONSTRUCTION COSTS:	$2,650,290	

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

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
None					

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
White Avenue Slip Project: Reviewed geologic and mining conditions along with available historic topographic maps and aerial photos; performed site reconnaissance; performed a geotechnical subsurface exploration; conducted laboratory testing of select soil and rock samples; developed alternatives to stabilize/remediate the landslide; and developed construction drawings of preferred alternative; Morgantown, Monongalia County, West Virginia	City of Morgantown 389 Spruce Street Morgantown, WV 26505	$67,000 (Fee)	2021	YES
Fourth Street Arch Bridge Replacement Project: Performed NEPA Services, including an Environmental Assessment, Finding of No Significant Impact, Categorical Exclusion Evaluation, Replacement Alternatives, Background Research, Phase I Archaeological Survey, Architectural Survey, West Virginia Historic Property Inventory Forms, and Criteria of Effects Report; Weston, West Virginia	West Virginia Department of Transportation, Division of Highways State Capitol Complex, Building 5 1900 Kanawha Blvd E. Charleston, WV 25305	$430,982.00 (Fee)	2021	NO
Larry Frederick Highwall and Refuse Project: AML Reclamation Project consisting of two sites with collapsed portals and drainage, mine subsidence, un-vegetated coal refuse, residential waste, and a highwall bench. GAI provided subsurface investigation, surveying, development of construction plans and specifications for reclamation, permit applications and an Engineer's Opinion of Probable Construction Costs; Harrison County, West Virginia	WVDEP, Office of AML&R 601 57th Street, SE Charleston, WV 25304	$55,985 (fee)	2017	YES
AMD Treatment Design: Provided treated AMD to a river in Pennsylvania. GAI's scope included selecting a location for the treatment plant and related infrastructure, evaluating treatment processes, and selecting a treatment process to mitigate population from the AMD and to restore water quality to the Watershed.	Confidential Government Client, Pennsylvania	$1,633,368	2017	YES

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

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
None					

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program. **Please see GAI's Expression of Interest for additional information pursuant to GAI's qualifications for working on WVDEP-DLR-AML Projects.**

20. The foregoing is a statement of facts.

Signature: Kent C. Cockley Digitally signed by Kent C. Cockley DN: E=k.cockley@gaiconsultants.com, CN=Kent C. Cockley Date: 2023.08.28 08:46:15-04'00' Title: Vice President

Date: August 28, 2023

Printed Name: Kent Cockley, PE, MS

APPENDIX

E

AML AND RELATED PROJECT EXPERIENCE MATRIX

AML and RELATED PROJECT EXPERIENCE MATRIX

PROJECT	Exp. Basis C=Corp. P=Personnel *	Additional Info Provided in Section(s) **	PROJECT EXPERIENCE REQUIREMENTS																PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional	
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Mapping	Charles F. Straley, PE, PLS	Jason G. Gandee
Belle (Sneed) Drainage Project	C/P	EOI/Appendix A	X	X	X	X			X		X	X					X	X	M/P	M/P
Mingo County PSD Feasibility Study	C/P	Appendix A	X			X						X							M/P	
Amigo Portals	C/P	Appendix A	X	X	X	X					X	X				X		X	M/P	
Larry Frederick Highwall & Refuse	C/P	EOI/Appendix A	X	X	X	X	X		X		X	X			X		X	X	M/P	
Oldfield Branch (Hall) Drainage	C/P	Appendix A	X	X	X	X					X	X					X	X	M/P	
Eastern Wyoming County PSD Feasibility Study	C/P	Appendix A	X			X						X							M/P	
Raleigh County PSD Feasibility Study	C/P	Appendix A	X			X						X							M/P	
Wheatley Branch (Lutyhy) Portals	C/P	Appendix A	X	X	X	X					X	X			X		X	X	M/P	
Webster County Commission Diana Area Feasibility Study	C/P	Appendix A	X			X						X							M/P	
Cherokee Complex	C/P	Appendix A	X			X	X				X	X			X	X	X	X	M/P	
Laurel Point (Saylor Run Road Slip)	C/P	EOI/Appendix A	X	X	X	X					X	X			X	X	X	X	M/P	
Reynoldsville Refuse	C/P	EOI/Appendix A	X	X	X	X			X		X	X			X	X	X	X	M/P	
Earling Refuse Pile	C/P	Appendix A	X	X	X	X					X	X			X	X	X	X	M/P	
Erbacon CR9 Webster County WL Feasibility Study	C/P	Appendix A	X			X						X							M/P	

* List whether project experience is corporate or personnel based or both
** Use this area to provide specific sections or pages if needed for reference
*** List Primary Design personnel and their functional capacity for the projects listed

AML and RELATED PROJECT EXPERIENCE MATRIX																			
PROJECT	Exp. Basis C=Corp. P=Personnel *	Additional Info Provided in Section(s) **	PROJECT EXPERIENCE REQUIREMENTS															PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional	
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Mapping	Charles F. Straley, PE, PLS	Jason G. Gandee
Kanawha Rambling Hills Water Study	C/P	Appendix A	X			X						X							M/P	
Davis Creek Water Study	C/P	Appendix A	X			X						X							M/P	
Coalburg Water Study	C/P	Appendix A	X			X						X							M/P	
Wallace 353 Water Study	C/P	Appendix A	X			X						X							M/P	
Wallace 354 Water Study	C/P	Appendix A	X			X						X							M/P	
Greystone Mine Drainage	C/P	EOI/Appendix A	X	X	X	X					X	X					X	X	M/P	
Route 60 Drainage	C/P	Appendix A	X	X	X	X					X						X	X	M/P	
Malllory Refuse	C/P	Appendix A	X		X	X	X				X				X		X	X	M/P	
Lynch Run Highwall #6	C/P	EOI/Appendix A	X		X	X					X	X		X	X	X	X	X	M/P	
Duck Creek (Jenkins) Landslide	C/P	EOI/Appendix A	X			X					X						X	X	M/P	
Heizer Creek Drainage	C/P	Appendix A	X	X	X	X					X						X	X	M/P	
Wolfpen Landslide	C/P	Appendix A	X	X	X	X					X						X	X	M/P	
Hominy Creek	C/P	Appendix A	X			X						X							M/P	
Logan (Marcum) Drainage	C/P	Appendix A	X	X	X	X					X	X					X	X	M/P	
Bud Alpoca	C/P	Appendix A				X						X							M/P	
Nuriva Maben	C/P	Appendix A				X						X							M/P	
Herndon Heights	C/P	Appendix A				X						X							M/P	
Handley/Upper Creek	C/P	Appendix A	X	X	X	X					X	X					X	X	M/P	
Titus Road	C/P	Appendix A	X			X					X	X		X			X	X	M/P	
American Legion	C/P	Appendix A	X			X					X	X		X			X	X	M/P	
Cogar	C/P	Appendix A		X	X	X							X						M/P	
East Branch Phase II	C/P	Appendix A	X			X					X	X		X		X	X	X	M/P	
West Branch Headwaters	C/P	Appendix A	X	X	X	X			X			X				X		X	M/P	

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Lake Milton Reclamation	C/P	Appendix A	X			X					X	X					X	X	M/P	
Middleton Run Reclamation	C/P	Appendix A	X			X					X	X						X	M/P	
Latrobe (Gibson) Landslide	C/P	Appendix A		X	X	X					X					X	X	X	M/P	
Lodestar Energy	C/P	Appendix A	X	X	X	X					X		X			X	X	X	M/P	
Ven's Run Maintenance	C/P	Appendix A	X			X					X						X	X	M/P	
War Waterline	C/P	Appendix A										X							M/P	
Clarks Gap	C/P	Appendix A				X						X							M/P	
War (Dash) Impoundment	C/P	Appendix A				X											X	X	M/P	
Whites Run	C/P	Appendix A	X	X	X	X	X				X	X		X		X			M/P	
Helen Portals	C/P	Appendix A	X	X	X	X	X				X				X	X			M/P	
Bearwallow Branch	C/P	Appendix A	X	X	X	X	X				X					X			M/P	
Ned's Branch Impoundment	C/P	Appendix A	X		X	X					X	X	X			X	X		P	
McAlpin Phase II & III	C/P	Appendix A	X	X	X	X	X	X		X	X	X		X	X	X	X		M/P	
McAlpin Phase I	C/P	Appendix A	X	X	X	X	X				X	X		X	X	X	X		M/P	
Community of Preston	C/P	Appendix A				X					X		X				X		M/P	
Kingwood 52/6	C/P	Appendix A				X					X		X				X		M/P	
Micajah Ridge	C/P	Appendix A				X						X							M/P	
Glen Rogers	C/P	Appendix A				X						X							M/P	
Rt. 20 / Gould	C/P	Appendix A				X						X							M/P	
Elkins/Buckhannon	C/P	Appendix A				X						X							M/P	
Laurel Creek	C/P	Appendix A		X	X	X			X		X					X	X		M/P	
Superior	C/P	Appendix A								X									P	
Wash. Heights Review	C/P	Appendix A				X						X							P	
Gaymont	C/P	Appendix A				X						X							P	

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Hominy Creek	C/P	Appendix A				X						X							P	
Elk Creek / Verner	C/P	Appendix A				X						X							P	
Orlando Mining	C/P	Appendix A								X					X					
Scotch Hill	C/P	Appendix A									X						X		P	
Camp Run AMD	C/P	Appendix A	X	X	X	X					X	X		X	X	X	X		P	
Mahan	C/P	Appendix A	X			X					X					X	X		M/P	
Johnsons Knob	C/P	Appendix A	X	X	X	X	X				X	X		X	X	X	X		P	
Carolina	C/P	Appendix A	X	X	X	X	X				X				X		X		P	
Hutchinson	C/P	Appendix A		X					X		X						X		M/P	
Fairmont (Grandstaff)	C/P	Appendix A		X					X		X						X		M/P	
City of Summersville	C/P	Appendix A				X													P	
Reynoldsville	C/P	Appendix A				X					X		X				X		M/P	
Mill Creek	C/P	Appendix A				X					X			X			X		P	
Majesty	C/P	Appendix A	X	X	X	X	X	X	X		X	X		X	X	X	X		P	
Wash. Hts to Jeffrey	C/P	Appendix A										X								
Gauley River Review	C/P	Appendix A				X													P	
Heizer/Manila Review	C/P	Appendix A				X													M/P	
Owings	C/P	Appendix A	X	X	X	X	X			X	X	X		X	X	X	X		P	
Omega	C/P	Appendix A		X	X	X					X	X				X	X		P	
Mill Creek - Isom	C/P	Appendix A										X								
Weaver-Junior	C/P	Appendix A										X							M/P	
Reynoldsville Phase II	C/P	Appendix A										X							P	
Mainella	C/P	Appendix A		X					X		X						X		M/P	
Glen Morgan	C/P	Appendix A		X					X		X						X		M/P	

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Harris AMD	C/P	Appendix A		X	X	X					X			X					P	
Lefthand Fork	C/P	Appendix A	X	X	X	X	X	X			X				X	X	X		P	
Madison Street/Fairview	C/P	Appendix A		X		X					X								P	
Summerlee	C/P	Appendix A	X			X	X				X					X	X		M/P	
Cow Creek	C/P	Appendix A		X	X	X					X						X		P	
Godby Branch	C/P	Appendix A				X					X						X		P	
New Haven Phase II	C/P	Appendix A										X								
Gauley River Phase II	C/P	Appendix A										X								
Heizer and Manila Ph. II	C/P	Appendix A										X							M/P	
Matheny Hill Phase I	C/P	Appendix A										X							M/P	
Duncan Hill No. 2	C/P	Appendix A							X		X						X		M/P	
Urso Subsidence	C/P	Appendix A		X					X		X						X		M/P	
Mill Creek Phase II	C/P	Appendix A										X								
Duncan Hill Subsidence	C/P	Appendix A		X					X		X						X		M/P	
Cora Mine Drainage II	C/P	Appendix A		X	X	X					X	X				X			M/P	
Covey Creek Mine	C/P	Appendix A		X				X			X						X		P	
Vivian	C/P	Appendix A	X			X	X				X					X	X		P	
Kimball	C/P	Appendix A	X			X	X				X					X	X		P	
Hampden Bridge	C/P	Appendix A				X					X					X				
Bear Run Refuse	C/P	Appendix A	X			X	X				X	X		X		X	X			
Beaver Creek	C/P	Appendix A				X					X						X			
Charleston Landslide	C/P	Appendix A	X								X						X			
Garrison Complex	C/P	Appendix A		X		X					X						X			
Cassity Fork	C/P	Appendix A				X					X						X			

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Mulberry Fork Landslide	C/P	Appendix A	X								X						X			
Beckley Subsidence	C/P	Appendix A		X					X		X						X			
Courtright Highwall	C/P	Appendix A	X								X						X			
Richard Mine AMD Treatment	C/P	EOI	X			X						X		X					M/P	
Portal and Drainage - Sissionville, WV	P			X	X	X					X									P
Refuse Regrade and Drainage - Beckley, WV	P			X	X	X					X					X	X			P
Impoundment Regrade - Wyoming County	P		X			X					X					X	X			P
Grouting of Mine Subsidence Phase I - MacArthur, WV	P			X		X			X		X	X					X			P
Grouting of Mine Subsidence Phase II - MacArthur, WV	P			X		X			X		X	X					X			P
Portals and Drainage - East Lynn, WV	P			X	X	X					X					X	X			P
Refuse Regrade and Drainage - Mercer County, WV	P			X	X						X									P
Large Refuse Regrade, Portals and Drainage - Sundial, WV	P			X	X	X					X				X	X	X			P
Refuse Regrade and Stream Stabilization -Mingo County, WV	P			X		X					X						X			P
Refuse Impoundment Regrade - Wyoming County, WV	P			X		X		X			X						X			P
Water Study - Clay County, WV	P			X								X								P
Water Study - Braxton County, WV	P			X								X								P
Water Study - Preston County, WV	P			X								X								P

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Water Study - Preston County, WV	P			X								X								P
Water Study - Preston County, WV	P			X								X								P
Highwall Regrade and Portal Closure - Preston County, WV	P		X		X	X					X						X			P
Portals and Drainage - Wyoming County, WV	P		X	X	X	X					X						X			P
Portals and Drainage - Mingo County, WV	P			X	X	X					X									P
Portals and Drainage - Mingo County, WV	P			X	X	X					X									P
Portals and Drainage - Mercer County, WV	P		X	X	X	X					X				X		X			P
Stabilization - McDowell County, WV	P		X			X					X				X	X	X			P
Portals and Drainage - Kanawha County, WV	P			X	X	X					X						X			P
Impoundment Closure - Kanawha County, WV	P		X	X	X	X					X					X	X			P
Drainage Emergency Project - Wyoming County, WV	P		X			X					X									P
Emergency Project - Kanawha County, WV	P			X	X	X					X						X			P
Portals and Drainage - Kanawha County, WV	P			X	X	X					X						X			P
Refuse Regrade, Portals and Drainage - Preston County, WV	P		X	X	X	X					X				X		X			P
Drainage Project - Marion County, WV	P			X		X					X									P
Refuse Regrade - Marion County, WV	P		X		X	X					X				X					P

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Water Study - McDowell County, WV	P			X								X								P
Portals and Drainage, McDowell County, WV	P			X	X	X					X						X			P

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