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Header 1

List View

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

Procurement Folder: 1047660
Procurement Type: Central Purchase Order
Vendor ID: 000000160372
Legal Name: GAI CONSULTANTS INC
Alias/DBA:
Total Bid: $0.00
Response Date: 06/23/2022
Response Time: 13:03
Responded By User ID: GAIConsultants
First Name: Charles
Last Name: Straley
Email: c.straley@gaiconsultants.com
Phone: 681-245-8866

SO Doc Code: CEOI
SO Dept: 0313
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Status: Closed
Solicitation Description: EOI - 2022 AML Contract 8 Project North
Total of Header Attachments: 1
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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:	1047660
Solicitation Description:	EOI - 2022 AML Contract 8 Project North
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2022-06-23 13:30	SR 0313 ESR06232200000008062	1

VENDOR

000000160372
GAI CONSULTANTS INC

Solicitation Number: CEOI 0313 DEP2200000017

Total Bid: 0 **Response Date:** 2022-06-23 **Response Time:** 13:03:02

Comments: N/A

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	Professional Svcs - Brownton Refuse #2				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Expression of Interest

Extended Description:

Professional Svcs - Brownton Refuse #2

gai consultants®

Bridgeport Office
107A Cambridge Place
Bridgeport, West Virginia 26330
T. 304.808.6680
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June 23, 2022

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
2022 AML Contract 8 Project North
CEOI 0313 DEP2200000017

GAI Project #R210615.00

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 2022 AML Contract 8 Project North (Project) located in Barbour County, West Virginia. Our EOI concisely addresses the issues indicated in the State's Solicitation No. CEOI 0313 DEP2200000017, dated May 31, 2022. GAI believes our Team is exceptionally qualified to meet the needs of this Project based on the following considerations:

- **Key Project Leadership:** GAI's proposed **Project Manager, Jason Gandee**, has over 14 years of engineering 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, 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 35 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 a premier full-service engineering and consulting firm specializing in foundation and soil mechanics engineering. Our AMD experience is exemplary and 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 Categorical Exclusions, 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 Bridgeport and Charleston. **GAI's Bridgeport Office is located in the same complex as the WVDEP-DLR-AML's Bridgeport Office.** GAI's Charleston Office is located within a 10-minute drive of WVDEP-DLR-AML's Headquarters, located in Downtown Charleston, West Virginia. 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 Project. 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 Project Advisor, Charles Straley, at 681.245.8866 or via email at C.Straley@gaiconsultants.com.

Sincerely,
GAI Consultants, Inc.

Jason Gandee
Project Manager/Assistant Engineering Manager

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

JG:CFS/mdw

Attachment: 2022 AML Contract 8 Project North

EXPRESSION OF INTEREST

2022 AML Contract 8 Project - North

Solicitation Number: CEOI 0313 DEP2200000017

June 23, 2023

GAI Project No. R220615.00

Prepared for:
State of West Virginia
Department of Administration,
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, West Virginia 25305-0130
Attn: Joseph E. Hager III, Senior Buyer

Prepared by:
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Appendices

Appendix A - WVDEP Abandoned Mine Lands Project Synopsis

Appendix B - Key Personnel Resumes

Appendix C - Signed Solicitation No. CEOI 0313 DEP2200000017

- Addendum Acknowledgment Form
- AML Consultant Qualification Questionnaire
- AML and Related Project Experience Matrix
- AML Contractor Information Form/Entity OFT Form

INTRODUCTION

Company Overview

GAI began providing personalized consulting services in soil mechanics and foundation engineering services in 1958 in Pittsburgh, Pennsylvania. By steadily broadening our range of services and expanding our office locations throughout the United States, GAI has evolved into a premier employee-owned, award -winning, full-service engineering, environmental, and planning consulting firm. Today, through growth, acquisition, and much success, GAI has over 700 employees in 25 office locations, spanning across 12 states throughout the Northeast, Midwest, and Southern United States (U.S.), including offices in Bridgeport and Charleston, West Virginia.

We have become a hub of in-house engineers, scientists, and other professionals who are always accessible to our clients. We study, analyze, design, inspect, and manage for our clients, pooling our skills and resources to deliver superior client services throughout the United States. We are proud of our rich history as we continue to grow to support the needs of a loyal client base, while providing a thriving work environment for our employees, and remaining an integral part of the communities where we live and work in.

GAI offers a myriad of services under one roof, handled by one project manager, and performed with quality, reliability, and safety in mind. Our services include, but are not limited to: Construction; Cultural Resources; Dam Engineering; Distribution Engineering; Environmental Engineering; Environmental Permitting and Studies; Geotechnical Engineering; Geological Engineering; Hydrologic and Hydraulic (H&H) Engineering; Land Development; Landscape Architecture and Design; Mechanical and Electrical Engineering; Right-of-Way Support; Roadway Permitting; Site/Civil Engineering; Structural Engineering; and Survey. Additionally, GAI provides Air and Noise Studies; Coal Combustion Residuals (CCR) Management; Renewable Energy Services; and Hazardous and Industrial Waste Management.

GAI has worked on over 100 AML projects for the WVDEP since 1985, and we have worked on mining-related projects throughout West Virginia and the Northeastern United States for over 63 years. We are familiar with the region and have a thorough understanding of the regulatory approval process for various types of projects. Our personnel have a thorough knowledge and understanding of West Virginia's geologic and mineral environment, as well as the problems posed by past mining activities and practical methods to alleviate them. With 63 years of experience providing local expertise to worldwide clients in the development, government, energy, transportation, and industrial markets, GAI has the knowledge needed to perform geotechnical engineering services during design and construction phases of various projects for the State of West Virginia

GAI is consistently ranked in ***Engineering News Record's (ENR's)*** Top 500 Design Firms and Top 200 Environmental Firms. Our commitment to proactive employment of the most proficient and motivated talent helps our clients tackle the ever-changing challenges of our industry, technology, and regulatory practices. In the process, GAI has become an environmental and engineering hub of in-house engineers, geologists, scientists, and other professionals who are always accessible to our clients.

QUALIFICATIONS AND EXPERIENCE

Specialized Experience for Abandoned Mine Lands

GAI has provided a wide variety of services to governmental agencies related to the reclamation of mine land problems. We have also completed numerous projects for the Office of Surface Mining Reclamation and Enforcement (OSMRE) and AML programs in West Virginia, Pennsylvania, Ohio, Maryland, and Virginia. GAI staff has experience in all aspects of mining-related design engineering, geology, hydrogeology, environmental science, economics, transportation systems and land-use planning, structural engineering, engineering mechanics, agronomy, anthropology, archaeology, and various related professional disciplines.

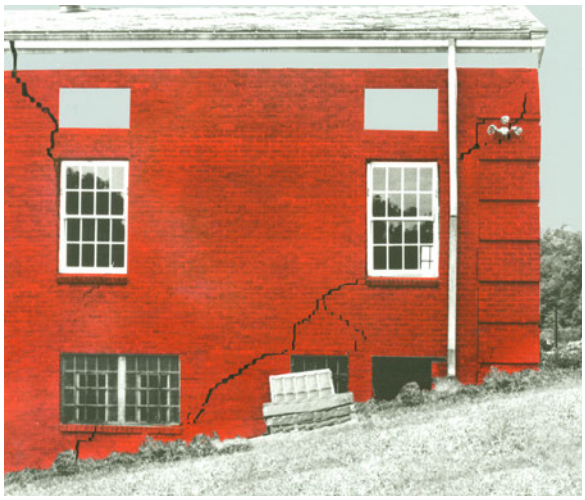
GAI's reputation as one of the nation's foremost authorities on mine stabilization, mine fires, mine reclamation, and acid mine drainage (AMD) remediation is the foundation for the solutions we provide to clients. For over 63 years, we have been delivering premier services - geotechnical investigations, 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 broad range of mining engineering, geological, geotechnical, environmental, water, and health and safety related services for mining engineering projects is supported by a dedicated staff of engineers, geologists, hydrogeologists, and environmental specialists. Our design capabilities include mine seals, haul roads, dams and impoundments, sedimentation ponds, coal preparation plants, water control and treatment facilities, acid mine drainage treatment, and waste disposal areas.

WVDEP-DLR-AML Project Experience

GAI has provided the WVDEP with open-end and individual project contracts since 1984. A complete list of our WVDEP AML project experience is located in **Appendix A**. GAI's WVDEP-DLR-AML project experience includes the following:

- Drainage design and installation;
- AMD evaluation and treatment;
- Mine portal reclamation;
- Burning coal refuse piles, coal seams, and underground mines;
- Stream restoration;
- Hydrologic/hydraulic design of erosion and sediment control;
- Subsidence investigations and stabilization plans;
- Coal refuse pile reclamation;
- Coal refuse reprocessing evaluations;
- Landslide investigations and repair;
- Demolitions plans;
- Wetlands replacement and development;
- Environmental liability assessments;
- Soil analysis and revegetation plans;
- Water quality surveys and feasibility reports;
- Water supply system reviews and designs;
- Detailed reclamation plans;
- Permitting for deep and surface mine applications;
- Subsidence control plans; and
- Construction monitoring services.



Geotechnical and Soil Mechanics Experience

Since 1958, GAI has established itself as a premier engineering and consulting firm specializing in foundation and soil mechanics engineering. Over the following years, GAI has amassed formidable experience in full-scale load testing of foundations, calibrating analytical models, and developing computer programs for designing foundations. Our geotechnical engineers and geologists are highly proficient in the fundamentals of engineering, soil and rock mechanics, foundation and slope engineering, seismic analyses, underground and surface mining, mine fires, and mine subsidence, as well as dam design and inspection.

When structures are built in areas where the uneven rise of expanding subgrades can occur, structural damage that was not anticipated can be a major concern. GAI investigates subgrade movements, determines their causes, and designs repairs that stabilize structures or eliminates the problem.

With proven foundation analysis and design capabilities, GAI also focuses on construction–using detailed quality control procedures to monitor the construction of all types of structures and foundations. As a matter of routine, we perform pile, pier, or plate load-testing, and vibration monitoring. We also conduct pre-blast or pre-driving surveys of facilities near a construction or demolition project to determine the presence of pre-construction damage.

Operating out of 25 office locations throughout the United States, our specialists bring with them a wealth of knowledge from years of academic training, research, and practical field experience – knowledge that is bolstered by expertise from GAI staff members in other disciplines, such as structural engineering, groundwater engineering, and hydrologic/hydraulic engineering.

Geotechnical Engineering and Soil Science Specific Capabilities

- Drainage channel design and construction;
- Geologic, subsidence, and landslide assessments;
- Landslide and subsidence studies and remediation design;
- Subsurface studies, investigations, and stabilizations;
- Geologic studies and reconnaissance;
- Site characterization and undisturbed soil sampling;
- Soil borrow investigations;
- Foundation recommendations, design, and research;
- Foundation testing, analysis, and detailed design;
- Geogrid Reinforced Soil and Mechanically Stabilized Earth (MSE) design;
- Slope stability analysis and embankment and cut slope design;
- Catastrophic damage inspection and analyses;
- Stress capacity investigations;
- Shop drawing review;
- Soil, rock anchors, and nails;
- Concrete, rock, grout, and cone penetrometer testing;
- Pile and caisson drilling inspection;
- Drilled shaft and grillage design;
- Wastewater disposal and agricultural utilization;
- Soil improvement techniques;
- Geoarchaeology, geomorphology, and pedology; and
- Construction monitoring.

Protected Species Studies

The conservation and natural resource permitting process can be cumbersome without the right partner. GAI has a long history of successfully navigating through rare, threatened, and endangered (RTE) species consultation and critical issues analyses. Our environmental studies and ecological surveys cover a broad range of RTE species, including bats. GAI is experienced at performing and coordinating studies for RTE species along linear and areal projects throughout West Virginia. In support of these studies, GAI's team of biologists perform environmental reviews, geographic information system (GIS) habitat evaluations and spatial analyses, field habitat assessments, presence/absence surveys, reporting, and preliminary/follow-up agency coordination/consultation.

Across the Eastern United States, and within West Virginia, the most frequently encountered species-related project issues are with Indiana bats (*Myotis sodalis*) and freshwater mussels. Our biologists conduct or coordinate surveys and studies for these taxa, as well as for terrestrial mammals, fish, birds, reptiles, amphibians, and plants listed as T&E by the United States Fish and Wildlife Service (USFWS) and certain states.

GAI's endangered species group is led by Mr. Adam M. Mann, a federally- and state permitted/qualified Indiana bat surveyor who has performed and managed Indiana bat studies in West Virginia and multiple states across the species range. Federally listed species are protected by the Endangered Species Act (ESA) from intentional "take," which includes habitat modifications. Therefore, projects that may contain habitat for RTE species must consider potential effects that could arise from project development. GAI biologists have extensive experience performing and coordinating studies to successfully help clients avoid, minimize, or mitigate habitat impacts to satisfy federal and state agency requirements for wildlife protection.

- GAI's solid reputation in environmental consulting is supported by our proven ability to conduct initial siting and red flag analyses, field habitat evaluations, presence/absence surveys, GIS mapping and spatial analyses, avoidance or mitigation planning, and agency coordination. We work with clients to obtain environmental clearance for new highway corridor or site development projects.
- GAI is committed to assisting the WVDEP with permitting issues related to bats and other listed species. Our biologists are dedicated to supporting project development, while at the same time, working to conserve natural habitats for plants and wildlife. From a few hours of consultation to total design and Environmental Impact Assessment (EIA) responsibility, our dedicated specialists are skilled in a broad range of disciplines. Whatever the required level of involvement, GAI delivers full-service project services with continued success.

Technical Support and GIS Services

GAI has field sampling and laboratory analysis equipment in-house for most terrestrial and shallow-water natural resources survey requirements. These include Surber samplers, D-frame and kick nets, seines, Ekman dredges, Kemmerer samplers, horizontal water samplers, water quality meters, water flow and current meters, soil sampling equipment, compound and dissecting microscopes, increment borers, transits, and handheld global position system (GPS) units. Our Information Technology department is staffed with six full time computer professionals who are available to assist our in-house and field staff via a readily accessible help desk line, should the need arise. Desktop personal computers utilizing various software packages and operating systems are provided for each employee, and tablets and laptop computers for field use are available, as needed. In addition, our Environmental Services Group includes a staff of GIS specialists who use state-of-the-art equipment and software including ArcGIS.

Cultural Resources

GAI's Cultural Resources Group has provided Section 106 services to a diverse clientele of West Virginia's private, state, and federal agencies for over 30 years. GAI's Cultural Resources Management Group of 20 full-time employees and 40+ field technicians have demonstrated a successful performance record for meeting critical project schedules, avoiding delays, submitting timely recommendations, employing innovative techniques, and producing high-quality professional reports. The ability of our staff to quickly mobilize and conduct concurrent projects allows GAI to effectively manage a number of task orders while providing quality deliverables to our clients on time and within budget.

GAI's work force is thoroughly experienced with the state and federal document and permitting requirements, and with the WVDEP's directives, specifications, design procedures, and project requirements. Over the past 30+ years, GAI has prepared Integrated Cultural Resource Management (CRM) Plans, Historic Preservation Plans, Historic Structure Reports, Criteria of Effects Evaluations (CEEs), Environmental Assessments (EAs), Environmental Impact Statements (EIS), Phase I, II, and III Archaeological Investigations, Historic Structure Surveys and Determination of Eligibility Reports, Historic American Engineering Record (HAER) and State-level Recordations, Criteria of Effects Evaluations, Programmatic Agreements, and Memorandum of Agreements, and Section 4(f), Section 6(f) and supporting documents and reports.

GAI's Cultural Resource Services include Phase I/II/III Archaeological Excavations, NEPA Documentation, GIS Archaeological Predictive Modeling, Section 4(f) Evaluations, Geomorphological Surveys/Soil Surveys, Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) Recordations, Architectural Surveys, Determination of Eligibility and Criteria of Effects Evaluations, National Register Evaluations and Nominations, Artifact Analysis, and Public Outreach Programs—Lesson Plans, Brochures, and Popular Reports.

In addition to providing standard historical and archaeological services for the West Virginia agencies, GAI has provided CRM services for a wide variety of local, county, and state governments, as well as private industry, resulting in cost-effective products of exceptional quality that are submitted in a timely manner. Because GAI has conducted cultural resources investigations throughout the State of West Virginia for over 30 years, we have earned extensive experience in the history and prehistory of all 55 West Virginia counties.

Prehistoric & Historical Archaeology

The cultural resources staff at GAI is intimately familiar with the rich archaeological resources and history of the Mid-Atlantic, Southern, and Midwestern U.S. Our Group is well versed in Phase IA sensitivity modeling through Phase III site mitigation. GAI's dedicated professionals clear the way for our clients to effectively manage prehistoric and historic-period cultural resources on their projects. GAI routinely streamlines archaeological investigations by conducting preliminary studies and reconnaissance surveys prior to subsurface investigations. Our clients favor this cost- and time-saving approach, which meets the guidelines of both federal agencies and State Historic Preservation Offices (SHPOs). GAI has completed numerous Phase I, Phase II, and Phase III investigations, ranging from the study of Archaic to Adena, and Fort Ancient sites to rural and urban sites of the nineteenth and early twentieth century. Our artifact analyses are complemented by an integrated database management system that streamlines the regulatory compliance process so that we can efficiently review and share large volumes of data with our clients, SHPOs, and other agencies.

Architectural Surveys

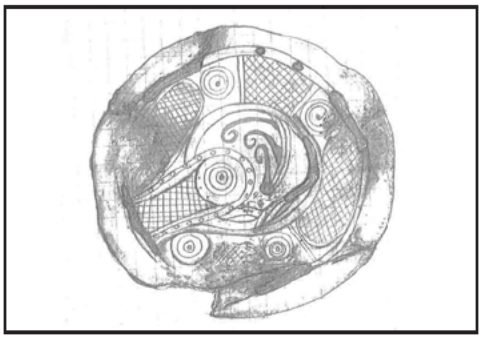
Section 106 of the National Historic Preservation Act of 1966 requires aboveground historic buildings, structures, sites, districts, and objects to be considered during the planning stages of federal undertakings. GAI assists both private and government clients to identify architectural and historical resources to move their projects forward. With proven expertise in identifying, evaluating, and mitigating historic resources throughout the U.S., GAI's architectural historians conduct documentary research and author historic resource surveys and determination of eligibility reports. Out staff architectural historians have prepared thousands of Historic Property Inventory Forms for numerous clients throughout West Virginia. Should historic resources be present, we often prepare criteria of effect evaluations and, as necessary, treatment plans and mitigation. Our architectural surveys are supported by state-of-the-art GIS and software capabilities, including the preparation of photo-simulations (SketchUp Pro and Photoshop) to assess potential effects to historic buildings and districts.

Geoarchaeology, Geomorphology, and Pedology

GAI reconstructs the activities of past cultures using geoarchaeology, geomorphology, and pedology to analyze soil, geographic, and sediment data. Our specialists in these fields work alongside our archaeologists on investigations from Phase IA sensitivity assessments through Phase III site mitigations to develop a framework for assessing and evaluating cultural resources effectively. GAI's geoarchaeology program is tailored to each client's project-specific needs. We provide background and field evaluations as part of Phase IA sensitivity assessments and determine soil properties during backhoe excavations and deep testing on Phase IB projects. By conducting geomorphological reconnaissance studies, GAI identifies disturbed settings in a project's Area of Potential Effect (APE) that can be eliminated from subsurface survey and can determine whether any valley bottom settings may require deep testing to locate buried sites. Incorporating geomorphology reconnaissance into field projects typically leads to significant cost savings during Phase I archaeological survey. On Phase II projects, we develop detailed soil profiles and conduct site-specific background research to enhance our understanding of the depositional context and importance of the site. GAI's Phase III mitigation work involves intensive soil sampling and geomorphic evaluations. We study the site's geomorphological features and characteristics to help reconstruct its depositional history and integrity.

State, Federal, and Tribal Coordination

GAI personnel have worked on numerous projects requiring coordination with SHPOs, Native American tribes, and federal and state agencies throughout the Mid-Atlantic, Southern, and Midwestern U.S. GAI's Cultural Resources Group has built and maintained strong relationships with SHPO staff in these regions where we have established a reputation for successfully obtaining agency concurrence in a timely manner expediting cultural resources clearances for our clients. Our work has also included extensive tribal consultation with the WVDOH, Federal Highway Administration (FHWA), and the SHPO in the preparation of a Programmatic Agreement relating to a nearby Native American village site containing numerous burials for a project located in Kanawha County, West Virginia.



Laboratory Processing

GAI's Cultural Resources Group facilities include a 1,000 SF laboratory and office areas that provide a safe and secure environment for managing all aspects of cultural resources management. GAI maintains a 1,500+ SF storage facility for long-term artifact curation, with an additional 6,000 SF archaeological storage facility with equipment storage areas and shelving that serve as temporary curation repository for artifact collections. The laboratory is lighted by natural and artificial light, and contains storage cabinets and shelves, worktables, sinks, and computers. The office area encompasses drafting and computer equipment, and an archaeology library of technical journals, reports, manuals, and references.

GAI's Cultural Resources Group facilities also include a Flote-tech machine for processing light and heavy fraction soil flotation samples, and a supply of portable shelters and heaters, allowing GAI archaeologists to work during winter months. GAI also maintains an in-house library of approximately 10,000 volumes dealing with all aspects of technical projects. GAI subscribes to numerous technical journals and to various reference services and can quickly obtain research materials not currently available in our in-house library.

Public Outreach

GAI has a long history of reaching out to the public and local communities with award-winning outreach and educational programs, conveying the benefits of cultural resource efforts on behalf of our clients. We have been involved with hundreds of public outreach meetings and lectures, created websites, authored reader-friendly handouts and reports, prepared posters, and organized hands-on educational programs and lesson plans for students.

Stream Restoration & Wetland Mitigation

GAI's first step in stream or wetland investigations is to evaluate sites to determine suitability, potential environmental impacts, and engineering constraints. Aquatic resource delineations are conducted in accordance with United States Army Corps of Engineers (USACE) protocols and appropriate state guidelines. Our staff is thoroughly familiar with federal Section 404 regulatory requirements and state regulatory needs. We have successfully obtained permits for thousands of projects requiring individual or nationwide permits.

Regarding mitigation, GAI initially works with clients to avoid and minimize impacts to streams and wetlands in an effort to eliminate or reduce mitigation requirements. Nonetheless, when viable avoidance options are unavailable and when regulatory drivers necessitate mitigation, GAI will work with clients presenting available options with costs and risks identified, providing our clients with the most up-to-date information to make the most informed decision regarding mitigation. Our environmental specialists help clients find practical solutions for projects that affect streams or wetlands; terrestrial and aquatic biota; and/or RTE plant and animal species. GAI has access to several state and federal resource layers to conduct GIS desktop analysis first, to maximize time efficiency in the field.

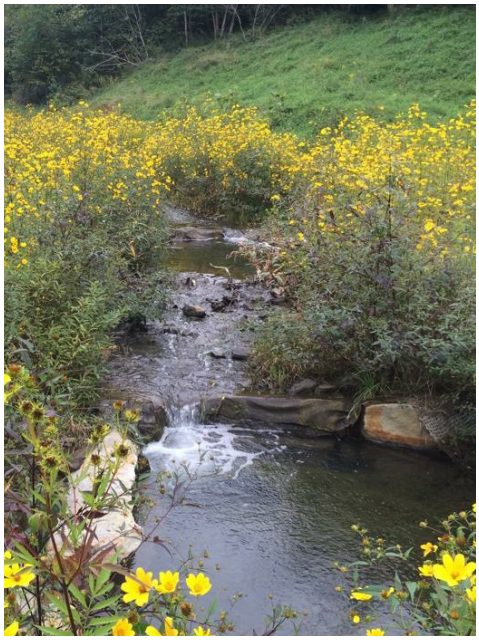
In preparing site-specific plans, GAI assists with site selection and land acquisition, ultimately developing conceptual mitigation plans for clients and then agency review and approval that meet sustainable requirements. We conduct resource delineations and functional assessments to assess the quality of existing conditions and predict future function and potential improvement. Overall mitigation strategies and processes involve hydrology assessments, hydraulic engineering, habitat design, permitting, construction monitoring and management, and performance standard monitoring for release and ultimate closure of a site.

Our extensive mitigation work has cultivated an experienced and multi-disciplined team of biologists, environmental scientists, and engineers that work closely with clients to move projects forward. GAI's staff have Rosgen Level IV training and experience in applying Natural Channel Design (NCD) techniques as standalone stream restorations or in conjunction with wetland mitigations. One of the most difficult goals in designing wetlands is maintaining a reliable water supply. GAI's hydrologists and hydraulic engineers work closely with our biologists preparing water budgets, conducting required hydrologic and hydraulic analysis, and assessments of soil, groundwater, and bedrock conditions to create sustainable hydrology for thriving wetlands.

After design, GAI's qualified Team will prepare construction bids and hold mandatory on-site bid meetings to select a qualified contractor. GAI's Team will then work with contractors to ensure resources are built in accordance with specifications and guidelines in the approved permits. Our expert monitoring team will follow up by conducting long-term monitoring of restored, enhanced, and created wetlands and streams effectively to identify and resolve issues.

Stream Restoration & Wetland Mitigation Specific Capabilities

- Stream delineation and wetland identification;
- Aquatic resource delineations;
- Cost and risk analysis;
- Baseline condition assessments;
- Hydrologic and hydraulic analysis and modeling;
- Stream restoration and wetland design;
- Conceptual and compensatory mitigation plans;
- Corrective action plans;
- Federal, state, and local permitting;
- Construction observation and pre-construction stakeout;
- Topographic, geomorphic, and as-built survey;
- Habitat conservation and mitigation plans;
- Wildlife habitat evaluations; and
- Annual monitoring and reporting.



Hazardous Waste Management

GAI has been developing industrial and hazardous waste treatment solutions for more than 50 years, and our full range of hazardous and industrial waste management services includes construction inspection and management. We support the efforts of federal and state agencies, as well as public and private owners in energy, manufacturing, and industry.

Environmental problems that stem from waste are the result of improper disposal and management. GAI understands the problems industrial waste generators face and the liability that accrues from faulty waste management practices. Our experience investigating problems and designing solutions is extensive and diverse. We apply in-depth knowledge and creative techniques to developing sound waste management plans.

GAI's integrated approach to waste management is supported by a diverse staff of professionals who bring a unique perspective to the environmental, geologic, hydrogeologic, regulatory, economic, and social aspects of each project. We evaluate, plan, design, and manage installation of secure hazardous and industrial waste facilities. GAI also identifies and develops procedures to mitigate difficulties at existing sites.

GAI conducts field investigations to gather as much site data as possible at the lowest cost to the client, and our field specialists are trained in health and safety according to Occupational Safety and Health Administration (OSHA) requirements. Our subsurface investigations comprise soil gas vapor surveys, drilling, test pit excavation, and soil, rock, and water sampling and testing.

A successful remedial site investigation requires the following plans be in place before the investigation starts: Preliminary Work Plan, Quality Assurance Project Plan, Field Sampling Plan, and Health and Safety Plan. If the presence of hazardous or industrial waste is determined, GAI conducts a feasibility study to evaluate remediation alternatives for protecting public health and the environment.

For each remediation, GAI reviews the most suitable technologies, balancing effectiveness, ease of implementation, and cost. Often, we combine two or more technologies, some of which include in-situ vacuum extraction, biodegradation, isolation and containment, soil washing, excavation and treatment, fixation, stabilization, and groundwater collection and treatment. Once GAI determines a suitable remediation alternative, we work closely with the client to develop a technical design plan that includes detailed documentation of the process.

Construction Engineering and Inspection Experience

GAI monitors the daily activities and building materials that are critical to Construction Engineering and Inspection projects with the following in mind—client service, construction integrity, and a successfully completed project. Whether GAI provides transportation construction monitoring, construction engineering and inspection for development, or construction management services for massive energy facility projects, our pool of resident engineers and construction specialists skillfully address the distinct construction challenges of clients in all industries.

GAI's 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 verify that the work is executed in accordance with the contract documents, and administer concrete, bituminous material, steel, and soil sample testing.

GAI provides quality control and cost protection throughout the building process so the work meets or exceeds quality standards. Clients' projects are professionally delivered with minimal or no construction delays, cost overruns, or safety violations. GAI's project portfolio includes construction services for major highways and bridges, large-scale site developments, wastewater treatment plants, industrial facilities, and power plants. We specialize in complex, multiphase construction projects for state agencies, municipalities, institutions, private developers, and power providers. Our repeat success is based on building trusted relationships with clients and contractors and helping them meet their project goals.

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, certified well drillers Licensed Water 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 industry-leading safety practices holding high standards for both employee and jobsite safety 24/7. EnviroProbe's drillers are certified, and all of their team members undergo strict protocols – ensuring safety is a number one priority at all times. EnviroProbe is a member of ISNetworld, Avetta, PEC Safety, and SafeLandUSA.

Geotechnics, Inc. - Construction Materials Testing Services

For more than 20 years, projects around the world have been built using Geotechnics, Inc. (Geotechnics). Their Geotechnical laboratories are equipped to handle any testing need, no matter the size or scope. 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 extensive facilities enable them to perform a myriad of tests simultaneously on samples of any 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. Geotechnics has facilities near Pittsburgh, Pennsylvania; Raleigh, North Carolina; and Nashville, Tennessee.

Eagle Surveying - Surveying Services/Legal Ownership of Properties

Eagle Surveying, headquartered out of Charleston, West Virginia, is a family owned and operated Surveying business. For this Project, Eagle Surveying will be responsible for Surveying Services and verifying Legal Ownership of Properties. Incorporated since 1992, Eagle Surveying offers a full scope 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, residential construction, and boundary surveys. 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.

Key Personnel Experience

Our proposed full-service Team is particularly well-suited for this Project due to our experience and expertise with AML projects. GAI's key personnel for this Project specialize in mine reclamation projects, including drainage and grading design and design and installation of drainage conveyances; site investigations; access road design and construction; revegetation of disturbed areas; NEPA consultations and documentation; water studies and design; AMD drainage mitigation; landslide stabilization and mitigation; highwall design; hydrologic and hydraulic analyses; permitting; feasibility studies; stream restoration; hazardous waste; preparation of construction documents; public participation; mapping and GIS; surveying; and other related services. Resumes of GAI's Project Management and Discipline Leads are located in **Appendix B**.

Jason Gandee - Project Manager

Mr. Gandee is an Assistant Engineering Manager out of GAI's Charleston, West Virginia office and is our proposed Project Manager for this Project. He has 14 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 NPDES construction stormwater permits and USACE regional permits. His experience with special reclamation projects includes developing construction plans to eliminate highwalls, providing hydrologic and hydraulic 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 all fiscal and personnel aspects of the Projects. He will also coordinate any 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 out of GAI's Charleston, West Virginia office and will serve as our proposed Project Advisor for this Project. He has over 35 years of engineering experience and is a licensed Professional Engineer (PE) in West Virginia, Ohio, Kentucky, and Indiana; and a Professional Licensed Surveyor (PLS) in West Virginia. **Mr. Straley has managed and participated in the design and development of reclamation plans and feasibility studies for over 95 WVDEP mine reclamation projects, and is currently the Project Advisor for the Belle (Sneed) Drainage Project for the WVDEP-DLR-AML.** He has over 35 years of experience specializing in geotechnical engineering, including all 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 Project in a timely, technically sound, and cost-efficient manner. 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.

Donald Splitstone, PE - Geotechnical Engineering Lead

Mr. Splitstone is an Engineering Manager with GAI out of our Cranberry, Pennsylvania office and has over 23 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 has also been involved in the 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, 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. 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. Mr. Splitstone is a licensed PE in West Virginia, Ohio, Pennsylvania, and Florida. His graduate studies were in Geotechnical Engineering at the University of Pittsburgh. 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.

Keith Schoon, PE, MS - Geotechnical Engineering Support

Mr. Schoon is a Project Engineer with GAI out of our Pittsburgh, Pennsylvania office and will serve as a Geotechnical Engineer for this Group of Projects. He has over 10 years of experience specializing in design and construction of geotechnical engineering projects, including embankment stability analyses and remediation recommendations, seepage analyses, design of deep foundations and retaining structures, and geotechnical investigations. He recently was the Geotechnical Task Manager for the White Avenue Slip Project located in Morgantown, West Virginia. This project required on-site investigations to determine the exact condition and size of the landslide, stabilization of the hillside, road repair, drainage upgrades, and remediation below the slip. His experience includes construction engineering and inspection, plan preparation, quantity take-offs, cost estimating, and report writing. Mr. Schoon is a licensed PE in Pennsylvania. He received his MS and BS in Civil Engineering from The University of Pittsburgh.

Mary Beth Berkes, PE, MS - Hydrology and Hydraulics Engineering Lead

Ms. Berkes is an Assistant Civil Technical Leader with GAI located out of our Pittsburgh, Pennsylvania office. She serves as GAI's Engineering Lead for Stream and Wetland Mitigation Design. Ms. Berkes also manages a team of experienced and junior staff with a passion for hydraulic design work. She has over 13 years of design experience and is a licensed Professional Engineer in West Virginia, Pennsylvania, Ohio, Kentucky, Indiana, and Wisconsin. Her areas of specialization include H&H analyses and modeling, inundation studies and investigations, natural channel design, stream restoration and bank stabilization for protection of utilities, property and resources, geomorphic surveys, and field assessments. 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 hydrologic and hydraulic permitting and procedures. Ms. Berkes received the prestigious Young Professional of the Year Award in 2018 from the Society of American Military Engineers. She received her MS in Civil Engineering from Oregon State University, and BS in Civil Engineering from The University of Pittsburgh.

Kevin Bortz - Project Manager, Stream Restoration

Mr. Bortz is an Engineering Manager with GAI located out of our Pittsburgh, Pennsylvania office. He has over 34 years of experience specializing in H&H, natural stream restoration, Erosion and Sedimentation (E&S) controls, and stormwater management, as well as general civil engineering and surveying. Mr. Bortz is a PE licensed in Pennsylvania, North Carolina, and Virginia. He provides H&H design and analysis for NCD projects, culverts, channels, ponds, dams, stream encroachments, and impoundments. Mr. Bortz is experienced in preparing USACE Joint Permit Applications, including dam, culvert, and general permits, and develops E&S Control Plans for construction activities. Attending a four-week training course on Natural Stream Restoration at West Virginia University with the West Virginia Department of Transportation, he is well versed and trained in Rosgen principles taught through the Level IV course. Mr. Bortz received his MS and BS in Civil Engineering from the University of Pittsburgh.

Shane Fisher, PE - Civil Engineering Lead

Mr. Fisher is an Assistant Engineering Manager with GAI out of our Bridgeport , West Virginia office and has 16 years of civil engineering experience. He is a licensed Professional Engineer in West Virginia, Virginia, North Carolina, and Maryland. 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; flood mapping; floodplain compliance; and construction monitoring for disaster-related funds. Mr. Fisher received his BS in Civil Engineering Technology from Fairmont State University.

David Ian Webster, PE - Civil Engineering Support

Mr. Webster is a Senior Project Engineer with GAI located out of our Charleston, West Virginia office. He joins GAI from the WVDOH, where he was involved in the analysis, design, and review of drainage projects, including bridges, stormwater systems, retention and sediment ponds, roadway drainage, and natural stream design. His nine years of experience includes preparing H&H designs and reports, Federal Emergency Management Agency (FEMA) no-rise floodplain certificates, National Pollutant Discharge Elimination System (NPDES) permits, and roadway and ROW plans. He is a licensed Professional Engineer in West Virginia, Kentucky, and North Carolina. He is currently working on the Belle (Sneed) Drainage Project for the WVDEP-DLR-AML. Mr. Webster received his BS in Civil Engineering from West Virginia University, where he was magna cum laude.

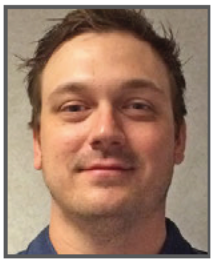
A. Edward Sciulli, PG, PMP - Lead Geologist

Mr. Sciulli is a Senior Hydrogeology Manager with GAI located out of our Pittsburgh, Pennsylvania office and has 35 years of experience specializing in managing small and large-scale remedial and site investigations, feasibility studies, and geophysical surveys. He is a licensed Professional Geologist in Pennsylvania and New York and has managed numerous AMD watershed assessment projects related to former mining activities. He is highly experienced conducting soil and groundwater evaluation, remediation, aquifer testing, contaminant fate and transport valuations, hazardous and solid waste regulation, and environmental health and safety. Mr. Sciulli also conducts Phase I & II Environmental Site Assessments and is instrumental in designing and implementing site investigations. His experience includes being the Project Manager for AMD impacts within the Upper and Little Schuylkill River for the Schuylkill County Conservation District in Pennsylvania, which received the Governor's Award for Watershed Stewardship. Mr. Sciulli received his BS in Geosciences from The Pennsylvania State University.

Nolan Sollenberger - Geological Support

Mr. Sollenberger is a Project Geologist with GAI located out of our Bridgeport, West Virginia office with over five 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.

Alex Cook - Environmental Studies Lead



Mr. Cook is a Senior Project Environmental Specialist in GAI's Charleston, West Virginia office with 15 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)]. His experience includes working with the WVDEP, Division of Water and Waste Management, as the Environmental Lead for the Unknown Tributary #1 of Teter Creek Project, located in Barbour County, 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.

Adam Mann, MS - Endangered Species Biologist Lead

Mr. Mann an Environmental Manager with GAI located out of our Northern Kentucky office. He has over 23 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 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 with GAI located out of our Pittsburgh, Pennsylvania office. He has over 36 years of experience conducting and managing all aspects of 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.

Lee Arco, RPA, MA - Project Archaeologist/Principal Investigator

Based in GAI's Charleston, West Virginia office, Mr. Arco is a Project Archaeologist and has over 19 years of experience specializing in geoarchaeology and cultural resource management, including numerous projects in West Virginia. His research/publication background includes geomorphological studies of the evolution and chronology of the Holocene Mississippi River System, geoarchaeological assessment of mounds/earthworks, as well as identification and investigation of deeply buried archaeological sites within alluvial environments. He is trained in soil/sediment core extraction (Giddings Rig and GeoProbe), laboratory characterization of soils/sediments (particle size, loss-on-ignition, chemical content assays), micromorphological analyses, and in GIS software applications. Mr. Arco exceeds the professional requirements of the United States Secretary of Interior Standards for Archaeology (as defined in 36 CFR 61). He received his MA in Anthropology from Washington University in St. Louis and his BA in Anthropology from Ohio University.

Paula McClain - Senior Architectural Historian

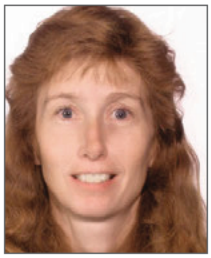
Ms. McClain is a Senior Architectural Historian based in GAI's Bridgeport, West Virginia office. She has seven years of experience specializing in conducting historic resource surveys, archival research, and National Register nominations. She meets the Secretary of the Interior's Professional Qualification Standards for History and Architectural History (as defined in 36 CFR Part 61), and has a working knowledge of the rules and regulations guiding Section 106 of the NHPA of 1966, as amended. Ms. McClain brings experience and proficiency in cooperating with local and governmental entities and officials and serving as the architectural and construction monitor for historic rehabilitation grants administered by the SHPO and the NPS. She conducts small- and large-scale cultural resource assessment surveys for various state and federal agencies, as well as organizations in both the public and private sectors. Ms. McClain has also worked on numerous NRHP nomination projects in West Virginia, including the 1892 National Bank of Davis in Davis, West Virginia; Prabhupada's Palace of Gold in New Vrindaban, West Virginia; and the 1931 Louden Dairy Barn in Romney, West Virginia. She received her Bachelor of Interdisciplinary Studies(Architecture Studies/Interior Design History focus), from Arizona State University, where she graduated magna cum laude.

Aimee Kay, PWS, MS - Wetland Design Lead/Environmental Support

Ms. Kay is an Environmental Manager with GAI based in our Pittsburgh, Pennsylvania office. She has over 35 years of experience specializing in wetland delineations and design, natural resources management and permitting, ecological field data, and conducting threatened and endangered species surveys and biological inventories. She is a Professional Wetland Scientist (PWS), and has performed thousands of wetland, stream, woodland, and natural resource inventories, delineations, restoration, enhancement, permitting, mitigation, and monitoring services. Ms. Kay also prepares, designs, and coordinates the natural resource component for site plans. She has conducted

inventories in Pennsylvania, West Virginia, Michigan, Indiana, Virginia, Kentucky, Texas, New Mexico, Wisconsin, and New York. Ms. Kay also conducts presentations on environmental issues for private and government agencies, and works with communities to implement and administer local environmental ordinances. She received her MS in Urban and Regional Planning from Eastern Michigan University, and her BA in Environmental Studies/Geography from Edinboro University of Pennsylvania.

Linda Ealy, SPWS, MS - Wetlands & Environmental Support



Ms. Ealy is a Project Environmental Specialist and a registered Senior Professional Wetland Scientist (SPWS) with GAI based out of our Pittsburgh, Pennsylvania office. She specializes in wetland delineations, vegetative surveys, wetland functional assessments, and wetland mitigation design and re-vegetation specifications. She performs field investigations and environmental impact analyses, prepares supporting documents relative to wetlands and plant ecology, and provides water quality and biological sampling of streams. She has worked on numerous NEPA projects in West Virginia for the WVDOH, including the current Hutchinson Truss Bridge Replacement Project, Oakwood Road Improvements Project, Fourth Street Arch Bridge Replacement Project, and the J.C. Cruikshank Memorial Bridge Project, among others. Ms. Ealy received her MS in Biology from Slippery Rock University and her BS in Biology from Clarion University.

Michael Holbert, PE - Roadway and Traffic Engineering Lead

Mr. Holbert is a Senior Engineering Manager located in GAI's Bridgeport, West Virginia office 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 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. He holds a BS in Civil Engineering from West Virginia University, where he graduated summa cum laude.

Steph Hartman, PE, MS - Roadway and Traffic Engineering Support

Ms. Hartman is an Assistant Engineering Manager located in GAI's Bridgeport, West Virginia office. She is a licensed Professional Engineer in West Virginia with over 11 years of experience in the design of highway facilities as well as non-traditional projects throughout West Virginia. Her design experience includes alternatives analysis, preliminary design, and final design phases for entities such as the WVDOH, local municipalities, and non-profit organizations. Ms. Hartman prepares right-of-way, roadway, utility, and recreational trail plans; as well as designs horizontal and vertical alignments, super elevation, guardrail, drainage, and ADA features. She was recently GAI's Civil Task Lead for the J.C. Cruikshank Memorial Bridge Replacement Project for the WVDOH. Ms. Hartman received her MS and BS in Civil Engineering from West Virginia University.

Sean Uber, MBA - Survey Lead

Mr. Uber is an Assistant Survey Manager with GAI located in our Southpointe, Pennsylvania office. He 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 all 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.

Louis Romano, PLS - Survey Support

Mr. Romano is a Lead Designer and licensed Professional Land Surveyor in West Virginia out of GAI's Bridgeport, West Virginia office. He has over 31 years of experience specializing in advanced 2D and 3D design from field to finish of highway improvement and paving projects utilizing MicroStation and InRoads. His skills also include providing, analyzing, and interpreting digital survey data and stakeout for roadway and bridge design, right-of-way, utilities, and highway construction projects. As an employee with the WVDOH for 10 years, Mr. Romano has a deep understanding of WVDOH practices, software, and procedures. Additionally, as a surveyor, Mr. Romano previously served as an instructor at the University of West Virginia; he currently leads his own surveying practice—a further testament to his knowledge and expertise in this field. Mr. Romano received his AAS in Forest Technology/Forest Engineering from the State University of New York, where he graduated cum laude.

Ed Mayhood - Computer Aided Design Lead

Mr. Mayhood is Senior Lead Project Designer with GAI located out of our Pittsburgh, Pennsylvania office. He will be GAI's Computer Aided Design Lead for this Group of Projects. He specializes in grading design and developing construction documents, as-built drawings, master plans, surveys and permit applications, including creating and refining conceptual and construction details. He has in-depth knowledge of AutoCAD Civil3D, as well as AutoTURN, Bluebeam PDF Revu, Adobe Photoshop, MicroStation, and Acrobat. Mr. Mayhood uses CAD software to create surveys, design site layout and grading, and create construction plans, sections, and details. He also develops cost estimates, specifications, construction phasing. Mr. Mayhood received his AST in Computer Drafting and Design from ITT Technical Institute.

Jonathan Phoenix, MS - GIS/Mapping Lead

Mr. Phoenix is a Project GIS Specialist located out of our Charleston, West Virginia office. He has over 11 years of experience with GIS and develops base maps, creates spatial data, maintains GIS databases, and creates metadata for new data. He utilizes tools such as Esri ArcGIS for Desktop and Server, including 3D Analyst and Spatial Analyst, Google Earth, and Trimble Pathfinder Office. While at Compass Data he post-processed survey grade data collections from all over the word utilizing Trimble Business Center. Such differential correction workflow processes were certified to pass certain industry standards such as the FAA DO-200A certification for meeting the Standards of Processing Aeronautical Data. Data processing also met ISO 9001:2008 certification standards. Mr. Phoenix received his MS in Geography from Marshall University, and his BA in Geography from West Virginia University.

Amanda Wasielewski, MS - GIS/Mapping Support

Ms. Wasielewski is a Project GIS Specialist with GAI located out of our Pittsburgh, Pennsylvania office. She has 12 years of experience with GIS data development, maintaining data developed in-house and from clients, cultural resource impact analysis for local, state, and federal permits, map generation, and determining mapping needs. Her areas of specialization include ArcGIS. Ms. Wasielewski has earned Environmental Systems Research Institute Training certificates in addition to teaching an advanced GIS course at the University of Pittsburgh. She has worked on providing GIS data and mapping for numerous NEPA projects for the WVDOH, including the Hutchinson Truss Bridge Replacement Project, Oakwood Road Improvements Project, Fourth Street Arch Bridge Replacement Project, J.C. Cruikshank Memorial Bridge Project, Roy M. Lilly Memorial Bridge Project, and the Bridge Street Bridge Project. She received an MS in GIS from the University of Pittsburgh, and her BA in Anthropology from Indiana University of Pennsylvania.

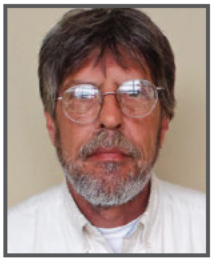
Terry Queen - Construction Management Lead

Mr. Queen is a Lead Construction Technician in GAI's Charleston office and has over 25 years of construction monitoring and drafting experience. He specializes in construction monitoring for municipal and infrastructure projects, develops preliminary and final designs for site development projects, and prepares construction drawings for highway and bridge projects. Mr. Queen has developed preliminary and final designs for mine reclamation sites in West Virginia and has been the Lead Construction Technician for numerous WVDEP AML reclamation projects. He has also worked on numerous drainage design projects in West Virginia for the WVDEP. His experience includes monitoring drilling activities, providing daily boring logs, and rock coring sampling. Mr. Queen's higher education experience includes Drafting and Design Courses from the West Virginia University Institute of Technology.

JT Sutton - Construction Management Support

Mr. Sutton is a Senior Construction Support Specialist with GAI located out of our Bridgeport, West Virginia office. He has nearly 30 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 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.

Thomas Heasley, PG - Quality Assurance Lead



Mr. Heasley is a Senior Project Geologist with GAI based out of our Pittsburgh, Pennsylvania office. He has over 35 years of experience specializing in quality control for field installation of geosynthetics materials, soil fills, and concrete placement. Additionally Mr. Heasley has performed site investigations, and foundation and utility installation. He reviews technical specifications and matches site-specific conditions with material requirements. Mr. Heasley is a Professional Geologist (PG) in Wyoming. He also received NICET Engineering Technician Level 1 Certification and is a Certified OSHA Construction Outreach Trainer. Mr. Heasley is adept at problem solving and dispute resolution, interpreting problems and developing design packages that meet regulatory agency standards and approval. He received his BS in Geology from Kent State University.

Kaleb Acree, PE - Quality Assurance Support

Mr. Acree is a Project Engineer with GAI located out of our Charleston, West Virginia office. He has over six years of experience specializing in civil engineering with a background in construction quality assurance (CQA), erosion and sediment control, permitting, report preparation, bridge inspection, and preparation of engineering calculations. Mr. Acree is a licensed Professional Engineer in West Virginia. He has obtained a Responsible Land Disturber Certificate from the Virginia Department of Environmental Quality and has experience with environmental compliance and inspections. Mr. Acree also is a Certified Grade 1 ACI Concrete Testing Technician. He received his BS in Civil Engineering from West Virginia University Institute of Technology.

PROJECT EXPERIENCE

ABANDONED MINE LAND EXPERIENCE

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:
Jason Gandee
GAI Consultants, Inc.
500 Lee Street East,
Suite 700
Charleston, WV 26330
T. 304.541.0854
E. j.gandee@gaiconsultants.com

Key Personnel:
Jason Gandee

Charles Straley, PE, PLS, MS

Ian Webster, PE

Nolan Sollenberger

Project Site

Subsurface Investigation

GAI is currently providing engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation 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 any associated water with the site.
- Design plans and develop specifications for limits of disturbance, stormwater control, and erosion and sedimentation prevention. All disturbed areas will be regraded and revegetated.
- Obtain all required permitting.

GAI is providing the following design services for the project: preliminary engineering and planning; surveying and reconnaissance; perform site investigations; subsurface exploration and laboratory testing; hydrologic and hydraulic analyses; clear and grub affected areas; 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 all 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

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:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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

Terry Queen

Reynoldsville Mine Refuse Site

Reynoldsville Site Post Construction

GAI provided engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation 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 all supervision, labor, plants, power, equipment, and performed all operations in connection with this project.

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:
WVDEP, Office of Abandoned Mine Lands & Reclamation

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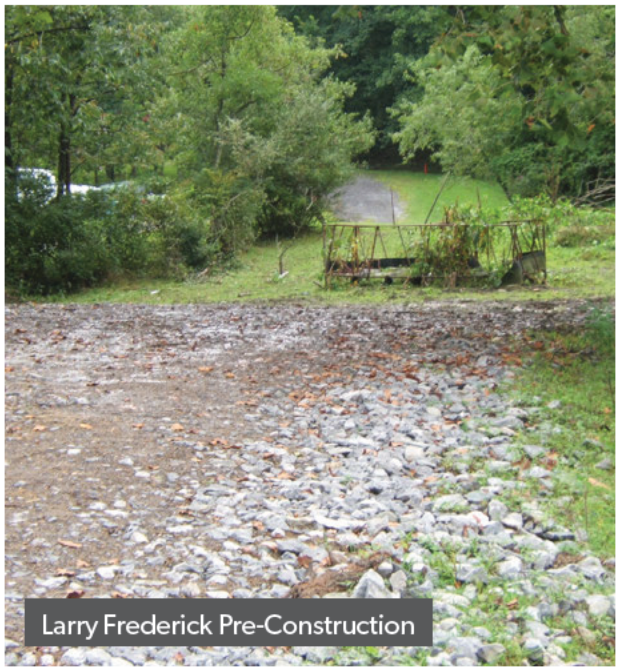
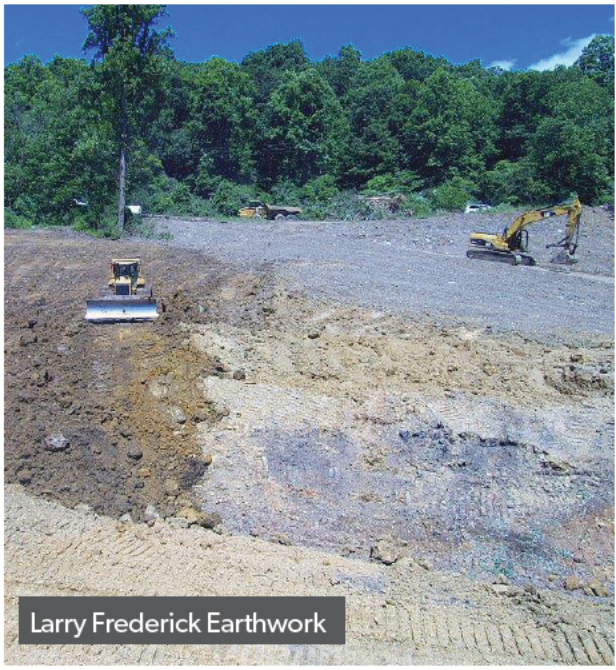


Larry Frederick Pre-Construction



Larry Frederick Earthwork

GAI provided engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation 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. GAI furnished all supervision, labor, plants, power, equipment, and performed all operations in connection with this project.

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:
WVDEP, Office of Abandoned Mine Lands & Reclamation

Project Manager:
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Lynch Run Drainage

GAI provided engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation 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 West Virginia Department of Environmental Protection'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 estimated 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.

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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Laurel Point Slip Area | Exposed Highwall

GAI provided engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation 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

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:
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Project Manager:
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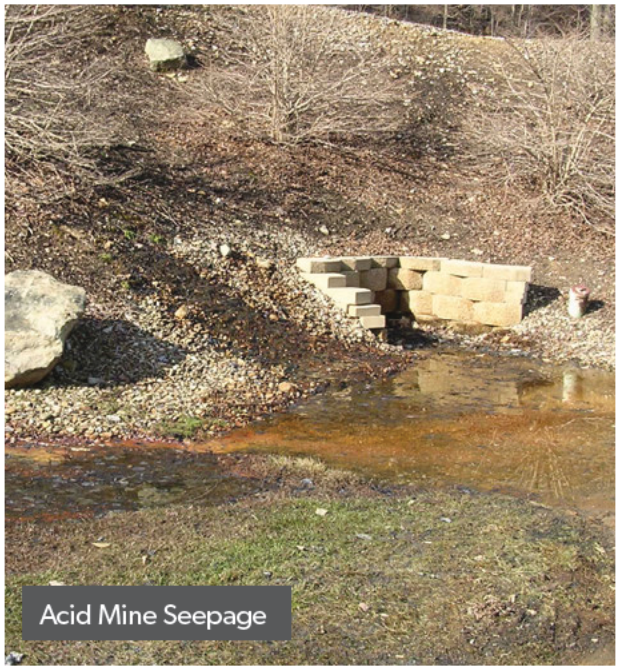

Acid Mine Seepage

Installed Drainage Structure

GAI provided engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation 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. GAI furnished all supervision, labor, plants, power, equipment, and performed all operations in connection with this project.

AML Engineering

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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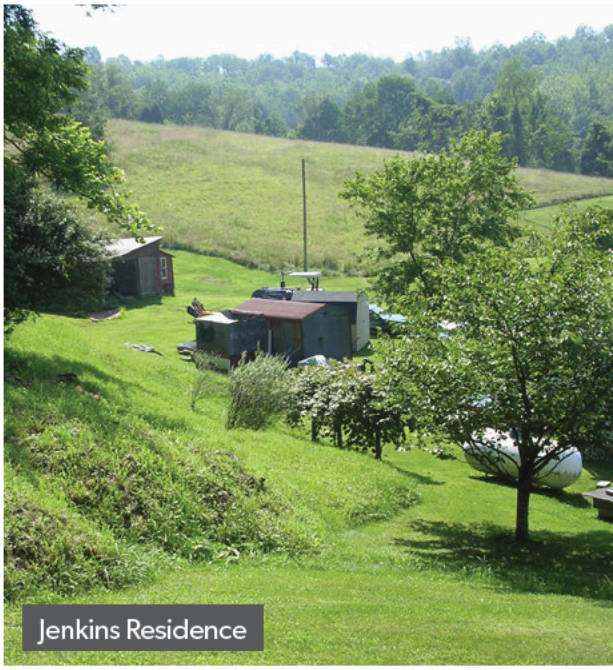
Duck Creek (Jenkins) Landslide

Harrison County, West Virginia


Encroaching Landslide


Jenkins Residence

GAI provided engineering services to the West Virginia Department of Environmental Protection, Office of Abandoned Mine Land, 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

Richard Mine Acid Mine Drainage Treatment Project

Richard, Monongalia County, 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:
West Virginia Conservation Agency (WVCA), Monongahela Conservation District, and Natural Resources Conservation Service (NRCS)

Project Manager:
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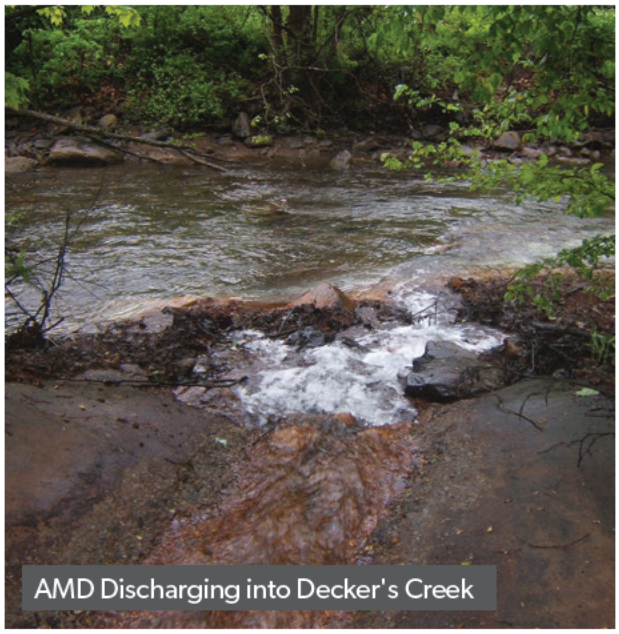

AMD Discharging into Decker's Creek

AMD Mixing/Treatment Pond

GAI partnered with the West Virginia Conservation Agency (WVCA), Monongahela Conservation District, and Natural Resources Conservation Service (NRCS) to correct the Acid Mine Drainage (AMD) discharge problem at the Richard Mine, near Morgantown, West Virginia. The overall goal of this project was to improve the water quality in Deckers Creek to restore the fish habitat in the lower five miles of the stream. The many benefits to the natural environment for Monongalia County and the City of Morgantown included removing the ugly orange and white staining caused by the AMD precipitate.

The Richard Mine AMD enters Deckers Creek about five miles upstream of the Monongahela River. Deckers 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. Deckers Creek meanders through Morgantown, past Marilla Park, and through residential neighborhoods. The creek is visible and accessible to the population of the Morgantown area. The Deckers Creek Rail Trail parallels the creek all the way from Reedsville, West Virginia down to the Monongahela River in the Wharf District.

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 Richard 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 the Monongahela River where it can be diluted by the large volume of water with limited adverse effects to the river's water quality. The Morgantown Utility Board expressed interest in the conveyance of the AMD to the Monongahela 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

City of Morgantown, Monongalia County, 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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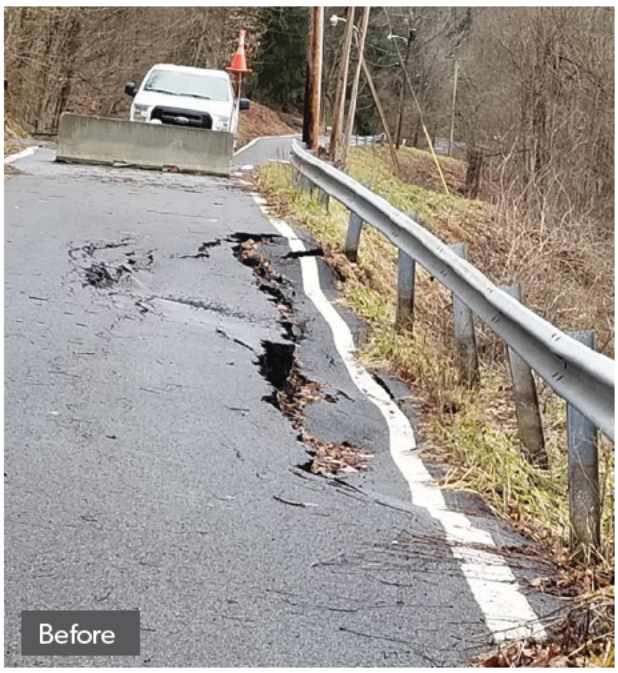

The Team of GAI and EnviroProbe provided engineering services to assist the City of Morgantown with the stabilization of the landslide along White Avenue in Morgantown, West Virginia. This project included a subsurface exploration program to obtain geotechnical data for the project and to provide recommendations 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

WVDEP UNT #1 of Teter Creek ILF Mitigation Project

Barbour County, West Virginia

Project Team:
GAI Consultants

Services:
Stream and Wetland Delineations
Watershed Analysis
Topographic Surveys
LiDAR and Contour Mapping
Geomorphic Surveys
Hydrologic and Hydraulic Analyses
FEMA Zone A Guidance
Plan Development
Permitting
Construction Oversight
As-Built Survey
Annual Monitoring

Client:
West Virginia Department of Water & Waste Management

Project Management:
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Adam Mann, MS
Alex Cook
Amanda Wasielewski, MS
Ben Resnick, RPA, MA, MBA
Edward Sciulli, PG, PMP
Shane Fisher, PE

Currently in West Virginia, there is a West Virginia ILF Mitigation Program and subsequent Instrument between the USACE and the WVDEP. In order to provide compensatory mitigation to offset advanced credit sales, WVDEP relies on contractors or other subsidiaries to identify possible mitigation sites, secure initial landowner interest, and prepare a Concept Plan for review by the Department before moving forward.

After proactively working with the WVDEP to identify and verify service areas that require mitigation credits to be offset by advanced credit sales, GAI financed site identification and landowner investigations to secure surface rights on five known parcels owned by one landowner. GAI prepared a Conceptual Mitigation Plan using a mitigation site in the Tygart Valley Watershed, on an Unnamed Tributary (UNT) of Teter Creek, located in Barbour County, West Virginia.

The Project is situated on approximately 500 acres and will encompass approximately 15,400 linear feet of stream proposed to be restored, enhanced, or preserved. An additional 5.4 acres of wetland will be established or enhanced and another 35 acres of riparian vegetation buffer will be enhanced and protected.

After approval of the Concept Plan by the WVDEP committee board and receipt of a $5,000 grant, GAI prepared a Mitigation Plan following the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule ("Final Rule") 33 CFR Parts 325 and 332 (USACE) and 40 CFR Part 230 (EPA). The plan provided a summary of the Project's existing conditions and expected mitigation potential based on preliminary West Virginia Stream and Wetland Valuation Metric (SWVM) assessment and credit/debit calculations. Upon approval by the USACE and Interagency Review Team (IRT) of the Conceptual Mitigation Plan, GAI moved forward to collect the baseline data collection, conduct topographic and geomorphic surveys, and hired a subconsultant to fly the site and prepare an aerial with LiDAR and contour mapping.

As part of the scope, GAI will provide construction oversight, conduct the as-built status survey, and proceed to conduct annual monitoring following through project closure.

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

Project Management:
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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

Unnamed Tributary of Isaacs Creek Stream Restoration Project

Harrison County, West Virginia

Project Team:
GAI Consultants

Services:
Desktop Mitigation & Restoration Plan

Baseline Condition Assessments

Hydrologic and Hydraulic 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

Project Management:
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Alex Cook

Mary Beth Berkes, PE, MS

GAI led on-site mitigation efforts, which were required due to sedimentation in a stream channel from oil & gas development. The sedimentation reduced channel capacity and caused flooding of the property, and channel migration and bank erosion led to undercutting and instability along the adjacent county road. Through post-construction site evaluations and forensic delineations, GAI determined the extend of impacts and required mitigation utilizing the West Virginia SWVM as guidance.

Designed within a constrained environment due the adjacent road, and meeting the landowner's request for a garden above the stream's floodplain, GAI developed a mitigation and restoration plan which provided enough SWVM credits to offset the debits, resulting in 256-feet of stream restoration.

The presence of the unstable county road required both permitting and construction to be expedited. GAI's solutions included coordination with the road designer who was a separate consultant and holding on-site meetings with the agencies and landowner to align project goals. Natural channel design methods were utilized in conjunction with hydraulic modeling, creating a multi-stage channel with floodplain connectivity and terracing for flood control. The road was stabilized through use of concrete bin blocks, and in-stream structures were design to redirect erosive flows. On-Site support during construction was also crucial to the project's success.

Impacted Stream Before Construction

Impacted Stream Post Construction

Impacted Stream Year 2 Monitoring

NEPA Project Profile

Fourth Street Arch Bridge Replacement Project

Lewis County, 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

Project Management:
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Fourth Street Arch Bridge

Weston Downtown Historic District

Under contract with the WVDOH, GAI conducted environmental services for an Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) in compliance with NEPA, as described in Section 1508.9 of the Council on Environmental Quality's NEPA Regulations. The WVDOH, in cooperation with the FHWA, proposed to replace the existing Fourth Street Bridge in Weston, Lewis County, West Virginia. The Arch Bridge is on a section of local roadway that carries Fourth Street over the West Fork River. Several National Register-listed properties are located within close proximity to the bridge, which is a contributing resource to the listed Weston 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, WVDOH 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 Fourth Street Arch Bridge Replacement Project for the WVDOH. Background research revealed no previously-recorded archaeological sites within or immediately adjacent to any of the alternatives. However, historical maps indicate the B & O 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 Weston Downtown Historic District and the Weston 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 Weston Downtown Residential Historic District. Despite structural deterioration, the Fourth Street Arch Bridge retains sufficient integrity to remain National Register of Historic Places (NRHP) eligible under Criterion C as a contributing resource to the Weston 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.

NEPA Project Profile

Bridge Street Bridge Replacement Project

Taylor County, West Virginia

Project Team:
GAI Consultants

Services:
Categorical Exclusion Evaluation

Section 4(f) Evaluation

Architectural and Historical Documentation

Client:
West Virginia Department of Transportation, Division of Highways

Project Management:
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Key Personnel:
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Bridge Street Bridge

B&O Railroad Historic Car & Plaque

WVDOH, in cooperation with the FHWA, proposed to replace the existing Bridge Street Bridge in the City of Grafton, Taylor County, WV. GAI completed a CEE and Section 4(f) documents for the Bridge Street Bridge replacement project in compliance with Section 4(f) in FHWA and Council on Environmental Quality Regulations of Title 23, CFR Part 774; and CE requirements in Title 23, CFR Part 771. Final NEPA approval for construction was granted to the WVDOH in 2015. In addition to natural and man-made resources, historic resources in the vicinity of the existing bridge complicated bridge study and replacement, including:

- Bridge Street Bridge, eligible for listing in the National Register of Historic Places (NRHP);
- NRHP-listed Grafton Downtown Commercial Historic District, including land and buildings adjacent to and west of the bridge; and
- B&O Railroad and Yard (now CSX Railroad and Yard), an NRHP-eligible resource which was spanned with bridge piers, located on railroad property.

The Bridge Street Bridge carries two-lane Taylor County Route 9 over Three Fork Creek, the B&O Railroad and Yard, and Front Street. It is just to the east of downtown Grafton. The bridge is located in a narrow valley of Three Fork Creek, with nearby topographic and developmental constraints. In the northeast quadrant is the Elizabeth Cather Towers (just east of the bridge entrance), a Section 8 affordable housing complex. Further east, urban development diminishes as a steep, forested ridge limits further construction. Except near the bridge entrance, land use is essentially wooded in this quadrant, with a smattering of houses along the road.

In the southeast quadrant is located the Department of Health and Human Resources building for Grafton and Taylor County off the east end of the bridge, and a number of houses along Barrett Street. In the southwest Quadrant is located the City Garage, the adjacent Calvary Apostolic Church, along with more houses along Barrett Street. In the northwest quadrant is the densely developed downtown commercial district of Grafton, and the major maintenance buildings of the B&O Railroad and Yard. GAI addressed these natural and developmental constraints in a detailed CEE.

GAI also completed extensive Section 4(f) historical investigations for the project, involving close coordination with the WV SHPO, to identify impacts and provide a mitigation plan that would be acceptable to the FHWA. A Memorandum of Agreement (MOA) for the project was defined, in compliance with Section 106 of the NHPA. This MOA was executed by the FHWA and the WV SHPO and contains stipulations to mitigate the adverse effect resulting from the Bridge Street Bridge Replacement Project, including documentation of the Bridge according to the NRHP and National Historic Landmarks Survey Photo Policy Expansion of March 2005. In addition, a sum of $5,000 was given to the City of Grafton for historic preservation within the Downtown Historic District; the replacement bridge contains historic-style lighting and architectural treatment to match the Downtown Historic District; and the bridge was documented on a future website listing historic bridges once the WV Historic Bridge Survey is complete.

GAI successfully navigated the CE and Section 4(f) documents through the complex review process to achieve approval of each, and to obtain NEPA clearance for the bridge replacement project.

REFERENCES

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

1. Jonathan Holbert
   Southern Region Design Engineer
   WVDEP, Abandoned Mine Lands & Reclamation
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2. Kristy Rodrigue
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   WVDEP, Watershed Improvement Branch
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6. Doug Smith
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PROJECT MANAGEMENT PLAN, QUALITY, AND COST CONTROL

PROJECT UNDERSTANDING

GAI understands that the WVDEP-DLR-AML is soliciting bids from qualified firms to provide architectural/engineering services for the 2022 AML Contract 8 Project - North, located in Barbour County. The Project in this Contract includes the following services to be provided: subsequent planning, realty, design, and construction services for each project (as listed below):

1. **Brownton Refuse #2 Project:** Located at the western side of the Community of Brownton, in Barbour County, West Virginia, off CR 1/6 (Bear Mountain Road), this project is for the regrade and soil cover of exposed coal refuse, reclamation of highwall (up to near 100-foot high), mitigation of water impoundments, and installation, repair, and/or replacement of proposed and/or existing drainage controls and features.

Services to be included in this Project includes, but are not limited to the following (as may be applicable):

- NEPA consultations and documentation;
- Public Participation;
- Infrastructure Investment Jobs Act (IIJA) compliance;
- Determine legal ownership of properties;
- Obtain exploratory and construction rights of entry;
- Provide legal documentation to substantiate legal ownership findings;
- Provide current mapping, perform survey, and other related services;
- Site and Geotechnical Investigations;
- Design temporary and permanent access or accesses for construction and future maintenance;
- Design to stabilize landslides;
- Hydrologic and hydraulic analyses;
- Design multiple portal seals and regrades;
- Design of highwall reclamation;
- Design to repair or replace existing drainage structures/systems;
- Design to mitigate AMD drainage, including possible horizontal borings;
- Design reclamation of exposed mine refuse and spoil;
- Design of drainage conveyances, including drainage channels, underdrains, and/or other controls to safely convey water off-site;
- Condition and revegetate all disturbed areas;
- Construction quality assurance and quality control;
- Provide resident project representative/inspector;
- Prepare daily construction activity logs summarizing activities;
- Provide engineering support and services throughout construction; and
- Provide Engineers Certification Report.

GAI understands that preliminary design documents will be due 90 days from the issuance of the Purchase Order.

PROJECT APPROACH AND METHODOLOGY

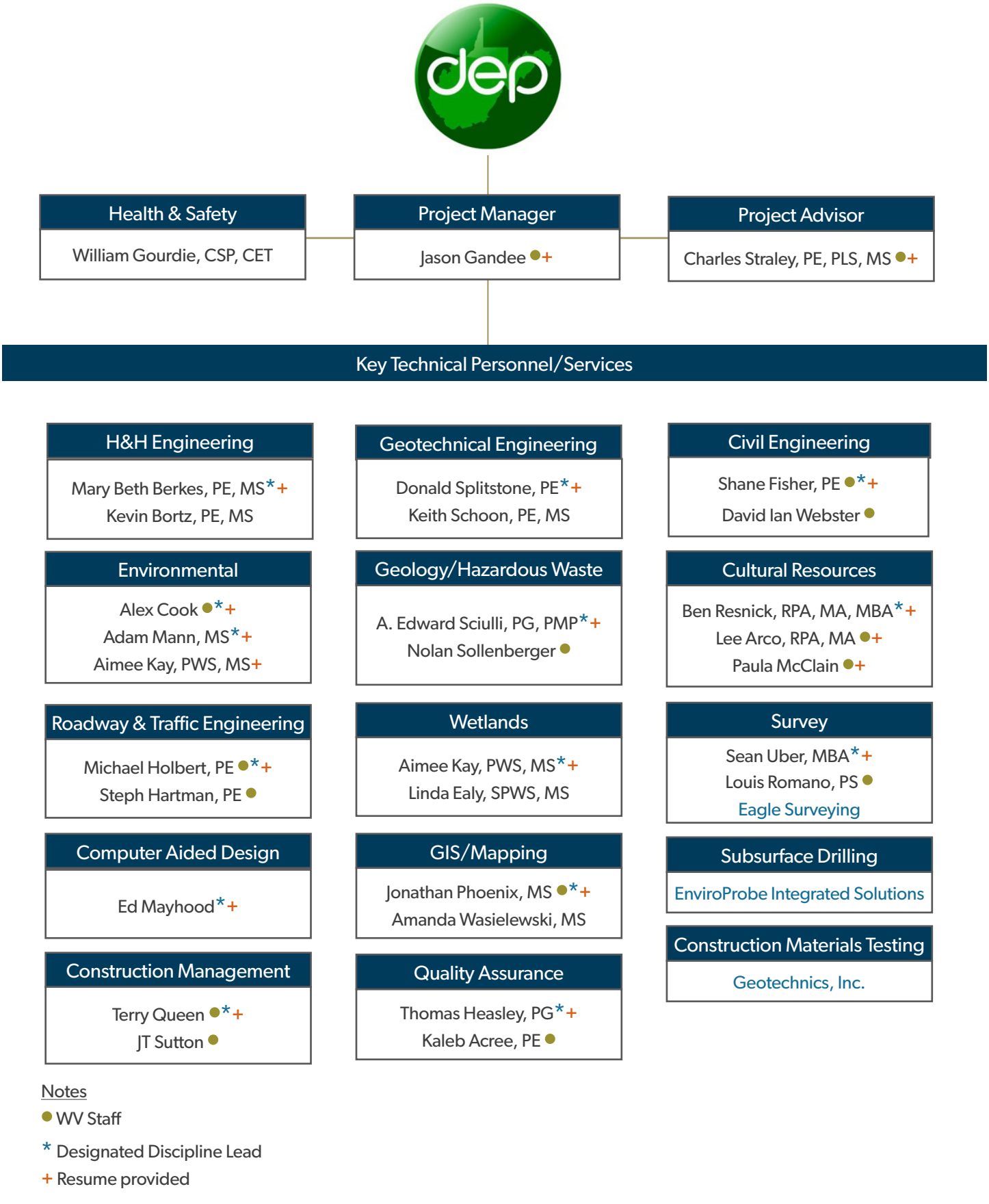
GAI strives to perform as an extension of our Client's staff with a service-oriented approach. Our approach is focused on regular and effective communication and to keep the WVDEP-DLR-AML informed of progress and to address Project challenges as they arise. GAI has set forth a number of communication, management, and monitoring systems to handle the Project 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 successful implementation of the Project. This PMP includes: Project Team Coordination and Scheduling, Quality Assurance/Quality Control, Data Management, and Invoice Management. GAI's proposed **Project Organizational Chart** is presented on the following page.

Project Management Plan

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

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. He has previously worked on over 25 AML projects in West Virginia and is currently the Project Manager for the Belle (Sneed) Drainage Project for the WVDEP-DLR-AML. Mr. Gandee will review the WVDEP-DLR-AML work directive and prepare the Scope of Work and Cost Proposal. A written Proposal, including a detailed cost estimate, (man hours and expenses

FIGURE 1 - PROJECT ORGANIZATIONAL CHART



Notes

● WV Staff

* Designated Discipline Lead

\+ Resume provided

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. He 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 maintaining liaison with the WVDEP-DLR-AML Project Manager, including Project status reports, as required. Additionally, he will make sure that we are in compliance with the IIJA program.

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, 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, full-service, experienced staff permits us to respond quickly, providing flexibility, and includes high level 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 small team with total responsibility for completion of the work to the Client's satisfaction and budget. Should it be necessary, the GAI Team can draw on the expertise available within GAI's 700+ personnel in our 25 office locations.

Project Team 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 anything that may affect the Project schedule and/or cost.

Project Scheduling

GAI uses either Primavera, Microsoft Project, or Excel scheduling spreadsheets for critical method scheduling, which tracks deliverables and keeps the project on time and on 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.

Quality Assurance/Quality Control

Project Controls Group

GAI has established a Project Controls group to monitor cost and manage reporting. This group utilizes Deltek Vision v7.6, GAI's enterprise management software, to monitor the cost of each project. Scope and budget must be agreed to prior to the task budget entry in Deltek. The Task Budget creation is the end result of the development and distribution of final scope, fee, budget, and schedule with the Project Team. The Task Budget establishes the base line to monitor and measure project progress and financial performance. Task Budget creation includes: Obtaining external scope, budget, schedule, and fee commitments; and distribution of labor, subconsultant/subcontractor fees, and direct expenses for the purposes of establishing baseline or supplemental task budgets using the Deltek Project Planning Module.

Quality Management System

GAI understands the importance of providing our clients with on-time, cost-effective, high-quality professional services. The continued success of our firm is directly related to our ability to continue to meet 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, 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.

Invoice Management

To track and manage the Project budgets, GAI proposes to use a Cost Tracking Spreadsheet. GAI will update the Cost Tracking Spreadsheet on a weekly basis, which includes 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 the Cost Tracking Spreadsheet as they are approved. GAI's proposed routine conference calls will include a review of the Project budget and change orders, as needed.

REQUIRED SOLICITATION DOCUMENTS

GAI has included the fully-executed Solicitation Document No. CEOI 0313 DEP2200000017, dated 2022-05-31, as **Appendix C**, which includes the following documents:

- Addendum Acknowledgment Form
- AML Consultant Qualification Questionnaire
- AML and Related Project Experience Matrix
- AML Contractor Information Form/Entity OFT Form

ASSUMPTIONS AND UNDERSTANDINGS

GAI's Scope of Services, Schedule, and Compensation as set forth in this Proposal have been prepared based on the following assumptions and understandings:

1. Client 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. Client 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.

HEALTH AND SAFETY

GAI believes all employees should go home in the evening just as healthy and safe as they were when they arrived in the morning. GAI is committed to a culture of safety. At GAI, project tasks are completed in accordance with all applicable state and federal regulatory requirements including Occupational Safety and Health Administration (OSHA) standards, client-specific health and safety requirements, and GAI policies and procedures. GAI employees are routinely provided health and safety training, particularly OSHA 10-hour and 30-hour construction awareness and/or SafeLand Training. New employees are introduced to GAI Health and Safety policies during employee orientation. GAI also provides OSHA 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and the eight-hour HAZWOPER refresher classes as needed.

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 all GAI staff as well as GAI subcontractors.

COVID-19 Response Plan

GAI's COVID-19 Committee meets regularly, monitoring conditions. Our goal is to adapt the way we work to help keep our clients, stakeholders, staff, and public safe by incorporating best practices put forth by the Centers for Disease Control (CDC) and other qualified entities. GAI has developed a COVID-19 Response Plan with actions initiated to mitigate the risk of exposure to our employees, subcontractors, and clients, with the goal of maintaining business continuity. GAI has always held safety as the most important of our core values. We are committed and focused on the health and well-being of our employees, our customers, and the communities where we do business.

CLOSING

The GAI Team is excited about the opportunity to work with the WVDEP-DLR-AML on this Project, 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 this 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, or Project Advisor, Charles Straley, at 681.245.8866.

Project Contacts

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APPENDIX A

WVDEP AML PROJECT EXPERIENCE

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

Jason Gandee

Project 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 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, Huntington, 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, Harrison County, 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, Pleasants County, 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, Harrison County, 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.
- Calhoun County Park Improvements Project, Mid-Ohio Valley Regional Council, Grantsville, 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.

Charles Straley, PE, PLS, MS

Project Advisor

Education

MS, Geotechnical Engineering, 1988, University of Akron

BS, Civil Engineering, 1986, University of Akron

Registrations

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

Professional Licensed Surveyor (PLS): WV #[redacted]

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 over 30 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.

- Middleton Run Reclamation Project, located in Jackson County, Ohio, for the Ohio Department of Natural Resources (ODNR), Division of Mineral Resource Management. Project Manager responsible for geotechnical engineering and development of remediation measures for the Middleton Run Reclamation Project, an abandoned mine site in Ohio. The 80-acre site was the largest major acid mine drainage contributor degrading the Raccoon 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.
- Mill Creek Regional Water Supply Extension Project in Logan County, 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 the redesign of WV Route 12.
- South Ruffner Phase I Drainage Project, City of Charleston, 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 for the WVDNR, Parks and Recreation. 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: West Virginia High Technology Consortium Foundation, Fairmont, West Virginia; WVDOH Maintenance Facilities in Red House, Point Pleasant, and Hurricane, West Virginia; and Midas Muffler 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.
- Developed plans and specifications for undermined sites by injecting the abandoned workings with cement grout and concrete. Hayes Large Architects - NASA Center; Valley Landfill; Taylor Landfill; and West Virginia High Technology Consortium Center

Affiliations

National Society of Professional Engineers, Member

Society of American Military Engineers, Members

gai consultants

Donald Splitstone, PE

Lead Geotechnical Engineer

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): PA #[redacted] OH #[redacted] WV #[redacted]

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 14 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, Doddridge County, 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.
- Uniontown to Brownsville Segment (SR0043, Section 51A) of the Mon-Fayette Expressway, Fayette County, PA, for the PTC. 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.
- Wintersdale Road (SR 4014) Landslide Repairs Project, PennDOT, District 4-0, Wayne County, 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.
- Hancock Highway (SR 0191) Landslide Repairs Project, PennDOT, District 4-0, Wayne County, 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 of SR0070 Support of Excavation Failure, SR0070, Section 10Q, Rostraver Township, Westmoreland County, PA, PennDOT, District 12-0. Senior Geotechnical Engineer on team requested by PennDOT 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 (SR3007) over Plymouth Creek, Montgomery County, PA, for PennDOT, District 6-0. Geotechnical Engineer on team requested by PennDOT 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 (SR0476) Bridge Replacement and Roadway Reconstruction, Structure NB-391, Lehigh County, PA, PTC/Trumbull Corporation (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 (SR4018) and valley of Trout Creek, reinforced soil slopes, and roadway embankment for pre-bid pursuit of this project.

Mary Beth Berkes, PE, MS

Hydrology & Hydraulics Engineering Lead

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): IN, KY, OH, PA, WI, WV

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 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.
- UNT #1 of Teter Creek In-Lieu-Fee (ILF) Project, West Virginia Department of Environmental Protection (WVDEP), Barbour County, 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, 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.
- Little Fishing Creek Streambank Restoration Project, 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 Isaacs Creek Stream Restoration Project, 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.
- Gregory Run Stream and Culvert Restoration, 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 at the intersection of State Route 0228 and Interstate 79, Pennsylvania Department of Transportation (PennDOT), District 10, Cranberry, 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.

gai consultants

Shane Fisher, PE

Civil Engineering Lead

Education

BS, Civil Engineering Technology, Fairmont State University, 2005

Registrations

Professional Engineer (PE): WV #[redacted] VA #[redacted] NC #[redacted] MD #[redacted]

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 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

- UNT #1 of Teter Creek In-Lieu-Fee (ILF) Project, West Virginia Department of Environmental Protection (WVDEP), Barbour County, 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, Upshur and Barbour Counties, 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, Davidson County, 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

A. Edward Sciulli, PG, PMP

Lead Geologist

Education

BS, Geosciences, 1986,
The Pennsylvania State University

Registrations

Professional Geologist (PG): PA-1994, NY-2018

Project Management Professional (PMP), Project Management Institute, 2009

Skills

Geophysical Investigations

Hydrogeology

Feasibility Studies

Environmental Risk Assessments

Groundwater Investigations and Remediation

Watershed Evaluation and Management

Soil Analysis

Hazardous and Industrial Waste Management

Solid Waste Management

Brownfield Development - Site Recycling

Certifications / Training

OSHA 40-Hour Hazardous Waste Operations and Emergency Response

OSHA Hazardous Waste Site Supervisor

OSHA 10-Hour Confined Space Entry and Rescue

Basic First Aid and CPR

Industry Experience

GAI Consultants, Inc., 2012-Present

L. Robert Kimball & Associates, Inc., 1994-2012

Earth Technology Corporation, 1986-1993

Professional Summary

Mr. Sciulli has more than 30 years of environmental due diligence experience conducting Phase I and Phase II Environmental Site Assessments (ESAs) related to the transportation industry, oil and gas industry, commercial / industrial facilities, municipal facilities, and brownfields. He specializes in managing small and large-scale remedial and site investigations, feasibility studies, and geophysical surveys. He has been instrumental in designing and implementing site investigations to guide former industrial sites through state Voluntary Remediation Programs. His diverse skill set includes experience in soil and groundwater evaluation, remediation, aquifer testing, contaminant fate and transport evaluations, hazardous and solid waste regulation, and environmental health and safety.

Select Professional Experience

- UNT #1 of Teter Creek In-Lieu-Fee (ILF) Project, located in Barbour County, West Virginia for the West Virginia Department of Environmental Protection (WVDEP). Task Manger responsible for management of a Phase I Environmental Assessment (EA) of the proposed ILF Mitigation Site. The Phase I ESA was conducted in accordance with ASTM Standard E 1527-13 and consisted of approximately 84 acres of mitigation area. Activities included a review of environmental databases, historical mapping, and a site reconnaissance. Generated the Phase I ESA report documenting the ESA findings and opinions regarding RECs at the site.
- West Virginia University Evansdale Crossing Site, Limited Phase II Environmental Site Assessment (ESA) Project, located in Morgantown, West Virginia. The Limited Phase II was conducted to evaluate potential site impacts related to a reported glycol release and the existing in-ground hydraulic lift.
- Shamokin Creek Watershed for the Northumberland County Planning Commission in Northumberland, PA. Project Manager for an assessment and prioritization of Acid Mine Drainage (AMD) impacts within the Shamokin Creek Watershed.
- Blacklick Creek Watershed for the Blacklick Creek Watershed Association in Indiana County, Pennsylvania. Project Manager for an assessment and prioritization of AMD impacts within the Blacklick Creek Watershed. Work included the development of a user-friendly relational database / GIS used to manage collected data and physical and chemical data analysis. The system was used to prioritize sites for future restoration.

- Oakwood Road Improvements Project, located in Charleston, Kanawha County, West Virginia, for the West Virginia Department of Transportation, Division of Highways (WVDOH). Task Manger responsible for management of a Phase I ESA within the project limits of MacCorkle Avenue South and Davis Creek Interchange in Charleston. The Phase I ESA was conducted in accordance with ASTM Standard E 1527-13. Activities included a review of environmental databases, historical mapping, and a site reconnaissance. Generated the Phase I ESA report documenting the findings and opinions regarding recognized environmental conditions (RECs).
- South Sandy Creek Watershed for the Venango Conservation District in Venango County, Pennsylvania. Project Manager for an assessment and prioritization of AMD impacts within the South Sandy Creek Watershed. Work included the development of a user-friendly relational database / GIS used to manage collected data and physical and chemical data analysis. The system was used to prioritize sites for future restoration.
- Upper and Little Schuylkill River for Schuylkill County Conservation District in PA. Received 2001 and 2002 Governor's Award for Watershed Stewardship. Project Manager for an assessment and prioritization of AMD impacts within the Schuylkill River Watershed. Developed a combined Relational Database / GIS that was used to manage collected data, provide a means for physical and chemical data analysis as it pertains to water quality, provided spatial analysis of water quality between individual discharges and sub-watersheds, identified gaps in data collection, and served as a depository for data gathered in the future.
- Lead Hydrogeologist responsible for the design of a groundwater extraction system at a power generating station to mitigate metals impacts to the adjoining river. Completed supplemental characterization of the facility geologic and hydrogeologic setting. Designed and conducted 72-hour pumping tests to evaluate aquifer characteristics, determine optimal well spacing, and calculate potential capture zones. Designed the installation of six groundwater extraction wells. Developed a Performance Test Plan and evaluated data to demonstrate capture of impacted groundwater. Currently performing system O&M.
- Fourth Street Arch Bridge Replacement Project for the WVDOH, Weston, Lewis County, West Virginia. Task Manger responsible for management of an Environmental due diligence evaluation associated with two alternatives for the bridge replacement project. Evaluations included a review of environmental databases, historical mapping, and other historical environmental data. Coordinated a site reconnaissance and managed the development of the due diligence report and recommendations.
- JC Cruikshank Memorial Bridge Project, located in Ivydale, Clay County, West Virginia, for the WVDOH. Task Manger responsible for management of an Environmental/Hazardous Waste due diligence evaluation associated with the bridge replacement project. Evaluations included a review of environmental databases, historical mapping, and other historical environmental data. Coordinated a site reconnaissance and managed the development of the due diligence report and recommendations.
- Dingess Street Bridge Replacement Project for the WVDOH, Logan County, West Virginia. Task Manger responsible for management of a Phase I Environmental Assessment (ESA) of the existing bridge location. The Phase I ESA was conducted in accordance with ASTM Standard E 1527-13. Activities included a review of environmental databases, historical mapping, and a site reconnaissance. Generated the Phase I ESA report documenting the ESA findings and opinions regarding RECs at the site.
- West Virginia University Evansdale Campus PRT Zone Station, located in Morgantown, West Virginia. GAI provided concept and site planning that will include restaurant, retail, and student facilities at the Evansdale Campus. Performed a Phase I ESA.
- Mt. Gay Deck Arch Bridge and the North Whites Addition Bridge Replacement Project, Logan County, WV, WVDOH, Task Manger responsible for management of an Environmental/Hazardous Waste due diligence evaluation associated with two alternatives for the bridge replacement project. Evaluations included a review of readily available environmental databases, historical mapping, and other historical environmental data. Coordinated a site reconnaissance and managed the development of the due diligence report and recommendations.

Alex Cook

Environmental Studies Lead

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 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.
- UNT #1 of Teter Creek, Phase I (Site Acquisition) and Phase II (Pre-Construction Design) In-Lieu-Fee (ILF) Stream and Wetland Mitigation Program, WVDEP, Barbour County, 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 and mitigation credits for proposed restoration activities.
- Conducted wetland delineations and vegetation surveys for several constructed compensatory wetland sites in West Virginia to evaluate and report fulfillment of mitigation success criteria.

- City of Nitro Streambank Restoration Project, City of Nitro, Nitro, 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. Mr. Cook also served as a representative for the associated public workshop.
- 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 and coordinated with the United States Forest Service for authorization of those activities proposed within the Monongahela National Forest.
- 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.

Adam Mann, MS

Endangered Species Biologist Lead

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. 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 Kentucky, Indiana, Ohio, Pennsylvania, West Virginia, 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

- Area Improvements Project, Cabell, Lincoln, and Logan Counties, 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, Kanawha and Fayette Counties, 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, Doddridge and Harrison Counties, 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, 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, Kanawha Valley Area Improvements Program, 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, 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, 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 and consultation with USFWS. Produced Bat Conservation Plans for each project.
- PaDEP 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 Anabat sampling.

Benjamin Resnick, RPA, MA, MBA

Cultural Resources Group Manager

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) No. [redacted]

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 more than 30 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

- Eleanor Historic District Survey and Nomination Project, Town of Eleanor, Putnam County West Virginia.
- Five Corners Historic District Survey and Nomination Project, City of Charleston, Kanawha County, West Virginia.
- Oakwood Road Improvements Project, West Virginia Department of Transportation, Division of Highways (WVDOH), Charleston, West Virginia. GAI is providing NEPA documentation for a two-mile roadway improvement project.
- J.C. Cruikshank Bridge Replacement Project, WVDOH, Clay County, 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.
- Monongahela National Forest, Phase I Cultural Resources Investigation, FPM Group/Federal Highway Administration (FHWA), Greenbrier, Pocahontas, and Webster Counties, West Virginia.
- Alex Mahood Context Statement, Research and Narrative Report, West Virginia Division of Culture and History (WVDCH), West Virginia (Statewide).
- John Norman Sr. Context Statement, Research and Narrative Report, WVDCH, West Virginia (Statewide).
- Levi Dean Context Statement, Research and Narrative Report, WVDCH, 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.
- West Virginia Army National Guard Armories, West Virginia Army National Guard, Harrison, Kanawha, Lewis, Mercer, and Mineral Counties, West Virginia. GAI conducted architectural and historical resources survey of six armories, constructed between 1958 and 1966, which had reached 50 years of age, including the Mercer County Armory, the Nathan J. Goff Armory, the SSG Jonah E. Kelly Armory, the Cecil H. Underwood Armory, the L.M. Gatens Armory, and the Weston Armory.
- 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, New State Office Building Project, West Virginia General Services Division, Logan County, West Virginia.
- Phase I Cultural Resource Investigations and Phase II National Register Evaluations, Appalachian Gateway Project, Barbour, Doddridge, Harrison, Kanawha, Marshall, and Wetzel Counties, West Virginia.
- Cultural Resources Consultation, Lucas-Weaver-Ripley Abandonment Project, Ashland County, Ohio and Jackson County, West Virginia.
- Phase I Cultural Resources Investigation, Huttonsville Work Camp, West Virginia Division of Corrections, Randolph County, West Virginia.
- Phase II Investigations, Dun Glen Hotel Site for the Fire Suppression System, National Park Service (NPS)-NERI, 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.

Lee Arco, RPA, MA

Project Archaeologist/Principal Investigator

Education

MA, Anthropology (Geoarchaeology), 2006, Washington University in St. Louis

BA, Anthropology, Biological Sciences Minor, 2003, Ohio University, Summa Cum Laude, Valedictorian, Phi Beta Kappa

Registrations

Skills

Cultural Resource Management

Geoarchaeology/Geomorphology

Soil/Sediment Analysis

Certifications / Training

Registered Professional Archaeologist (RPA) # [redacted]

Section 106 Essentials, Advisory Council on Historic Preservation, Chicago, IL, 2017

Project Management Courses

Archaeological Soil Micromorphology Training, Dept. of Archaeology, U. of Cambridge, UK, 2007

Industry Experience

GAI Consultants, Inc., 2012-Present

Washington University in St, Louis, 2004-2011, Adjunct Instructor, Lab Supervisor, Research Assistant

Cultural Resources Analysts, Inc., 2003-2004, Archaeologists

Professional Summary

Mr. Arco specializes in geoarchaeology, cultural resource management, and environmental permitting with extensive experience throughout the Southeast, Midwest, and Mid-Atlantic United States. He has 13 years of experience leading archaeological projects with 8 years of proposal, budget, and report writing. He has managed up to 30 staff during project completion schedules. His research/publication background includes geomorphological studies of the evolution and chronology of the Holocene Mississippi River System, geoarchaeological assessment of mounds/earthworks, as well as identification and investigation of deeply buried archaeological sites within alluvial environments.

Mr. Arco is trained in soil/sediment core extraction, laboratory characterization of soils/sediments (particle size, loss-on-ignition, chemical content assays), micromorphological analyses, and in Geographic Information System (GIS) software applications.

Professional Experience

- Field Director. Oakwood Road Improvements Project, West Virginia Department of Transportation, Division of Highways (WVDOH), Charleston, Kanawha County, WV. GAI is conducting environmental services for an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the WVDOH, in cooperation with the Federal Highway Administration (FHWA).
- Lead Archaeologist. J.C. Cruikshank Bridge Replacement Project, WVDOH, Clay County, WV. GAI conducted an architectural and historical resources survey for the proposed bridge replacement project. The bridge has been determined eligible for listing in the National Register of Historic Places (NRHP) under Criterion C. In addition, this work includes a Categorical Exclusion Evaluation (CEE) document.
- Lead Archaeologist. Archaeological Investigation, Dingess Street Bridge Replacement Project, WVDOH, Logan County, West Virginia. Mr. Arco was a Lead Archaeologist for this project. GAI conducted an architectural and historical resources investigation and archaeological investigation in the area of the proposed Dingess Street Bridge Replacement Project. Field investigations involved systematic visual inspection of the Project Area of Potential Effects (APE), which initially included a pedestrian survey and Phase I archaeological investigation.

- Field Director. Phase I Archaeological Survey, Spruce Release Unit N, US Forest Service,Monongahela National Forest, Greenbrier and Pocahontas Counties, West Virginia. Field Director focused on field studies for this project. Work involved Phase I archaeological testing of a broad floodplain, upland drainages, and ridgetops, as well of pedestrian reconnaissance of hundreds of wilderness acres. Multiple new precontact-period and historic-era sites were recorded, and multiple previously recorded sites were also investigated and evaluated.
- Project Archaeologist. Phase I Archaeological Investigation, New State Office Building, West Virginia State General Services Division, (Logan County, WV). Mr. Arco is a Project Archaeologist for this project. GAI provided Phase I Archaeological Investigations, Artifact Analysis Report, and Archaeological Monitoring for a new parking area at the New State Office Building in Logan county, West Virginia.
- Task Manager and Field Director for numerous projects in various roles including proposal/budget development, field direction, and final project reporting. Responsibilities included coordination with various State Historic Preservation Offices.
- Principal Investigator / Lead Archaeologist / Report Author, 69kV Transmission Line Rebuild, Fayette County, West Virginia.
- Principal Investigator / Lead Archaeologist / Report Author, 69kV Transmission Line Rebuild, Kanawha County, West Virginia.
- Lead Archaeologist / Report Author, 600+ acre Solar Array Facility, Phase I archaeological Investigation, Raleigh Solar Permitting, Raleigh County, West Virginia.
- Principal Investigator / Lead Archaeologist, 230kV Transmission Line Project, Cabell, Lincoln, and Logan Counties, West Virginia.
- Project Archaeologist. Carrie Furnace Redevelopment Project, Redevelopment Authority of Allegheny County, (Allegheny County, PA). Mr. Arco is a Project Archaeologist for this project. GAI was retained to provide program management services for the Carrie Furnace Redevelopment Project, a 168-acre former industrial site. The Carrie Blast Furnaces Number 6 and 7 National Historic Landmark District is situated in the western end of the development.
- Lead Archaeologist / Report Author, Phase I Cultural Resources Survey, Doddridge County, West Virginia.
- Lead Archaeologist / Report Author, Phase I Cultural Resources Investigations, Bethel Park Wastewater Treatment Plant Upgrades Project Phase I Archaeological Survey, Allegheny County, PA.
- Archaeological deep testing of the Little Kanawha River Floodplain, Braxton County, WV.
- Adjunct Instructor, Washington University, University College of Arts and Sciences, Introduction to Archaeology.
- Lab Instructor, Introduction to Archaeology. Washington University.
- Geoarchaeology Lab Director, Washington University.
- Co-director of Archaeological Field School / Excavation and Soil/Sediment Coring at the Jaketown Site, Mississippi (MS) (22HU505).

Affiliations

Register of Professional Archaeologists (2012-Present)

Society for American Archaeology

Southeastern Archaeological Conference

Geological Society of America

Phi Beta Kappa

Paula McClain

Senior Architectural Historian

Education

Bachelor of Interdisciplinary Studies (Architecture Studies/Interior Design History focus), 2015, Arizona State University, magna cum laude

Skills

National Register Nominations

Historic Architecture Surveys

Archival Research

Historic Rehabilitation

Industry Experience

GAI Consultants, Inc., 2021-Present

Mills Group, LLC, 2017-2021

Logan Simpson, Inc., Tempe, 2015-2017

State Historic Preservation Office, Phoenix, AZ, 2014-2015

Professional Summary

Ms. McClain meets the Secretary of the Interior's Professional Qualification Standards for History and Architectural History (as defined in 36 CFR Part 61). She specializes in conducting historic resource surveys and archival research, and has a working knowledge of the rules and regulations guiding Section 106 of the National Historic Preservation Act of 1966, as amended. She has conducted small- and large-scale cultural resource assessment surveys for various state and federal agencies, as well as organizations in both the public and private sectors.

Ms. McClain also brings experience and proficiency in cooperating with local and governmental entities and officials, serving as the architectural and construction monitor for historic rehabilitation grants administered by the State Historic Preservation Office (SHPO) and the U.S. National Park Service (NPS). She is currently a Board Member of the Preservation Alliance of West Virginia and Commissioner of the Monongalia County Historic Landmarks Commission.

Select Professional Experience

- Army National Guard Historical Building Assessments, West Virginia Army National Guard (WVARNG), Buckhannon, Clarksburg, Kingwood, and Point Pleasant, West Virginia. Conducted intensive-level surveys of seven buildings owned by WVARNG to support recommendations of eligibility for listing in NRHP.
- West Virginia Schools for the Deaf and the Blind Dairy Barn NRHP Nomination, Town of Romney, Romney, West Virginia. Surveyed, researched, and developed NRHP nomination for 1931 Louden dairy barn.
- State Development Grant Monitoring, West Virginia Department of Arts, Culture and History. Monitored rehabilitation development grants administered by the State Historic Preservation Office and National Park Service for compliance with state and federal regulations, including the Secretary of the Interior's Standards for Rehabilitation.
- Lewisburg Design Guidelines, City of Lewisburg Historic Landmarks Commission, Lewisburg, West Virginia. Worked with City, Commissioners, and local property owners to update existing design guidelines for Lewisburg Historic District.

- Hill Top House Hotel, SWaN Hill Top Investors, Harpers Ferry, West Virginia. Conducted survey of seven existing buildings on site and developed existing conditions drawings of historic buildings for use in rehabilitation work. Submitted Historic Resources Plan outlining significance and proposed treatments for each existing building on site, conducted viewshed analysis of existing and proposed new construction, and developed Memorandum of Agreement for completion of proposed redevelopment work.
- Hawks Nest State Park Museum Rehabilitation, West Virginia Department of Natural Resources, Ansted, West Virginia. Developed construction drawings for adaptive reuse of former museum building and residence into event center. Submitted drawings and documentation for compliance review by West Virginia State Historic Preservation Office.
- National Bank of Davis NRHP Nomination, Tucker County Historic Landmarks Commission, Davis, West Virginia. Surveyed, researched, and developed NRHP nomination for 1892 National Bank of Davis.
- Blue Sulphur Springs Pavilion Rehabilitation, Greenbrier Historical Society, West Virginia. Developed construction drawings and administered bidding, negotiation, and construction of repair and rehabilitation of foundation, spring box, columns, and roof.
- Prabhupada's Palace of Gold NRHP Nomination, Eco-Vrindaban, Inc., New Vrindaban, West Virginia. Surveyed, researched, and developed NRHP nomination for 1977 Prabhupada's Palace of Gold.
- Substation Rebuild Project, Architectural and Historical Resources Investigation, Allen, Kentucky. As report co-author, created new KHC site forms for approximately 17 structures.
- Transmission Line Replacement Project, Architectural and Historical Resources Investigation, Grundy, Virginia. GAI researched, surveyed, and wrote an architectural and historical investigation for this project. Created new V-CRIS forms for approximately 15 structures.
- Transmission Line Replacement Project, Architectural and Historical Resources Investigation, Crany, West Virginia. GAI researched, surveyed, and wrote an architectural and historical investigation for this project. Created new Historic Property Inventory (HPI) forms for six structures.
- Transmission Line Rebuild Project, Architectural and Historical Resources Investigation, Lynchburg, Virginia. Created viewshed renderings of proposed replacement transmission line poles for assessment of effect to resources listed in or eligible for listing in the National Register of Historic Places.
- Ms. McClain conducted extensive archival research for context studies on both surviving and extinct communities throughout the Western United States. She surveyed and recorded existing conditions for historic structure assessments, cultural landscape inventories, and determinations of eligibility for NRHP listings. Her experience also included designing interpretive graphics and educational materials for historic and prehistoric sites. Work was completed on behalf of the U.S. Forest Service, NPS, Bureau of Land Management, Bureau of Indian Affairs, Arizona Department of Emergency and Military Affairs, and Arizona State University.
- As a Survey and Inventory Specialist, State Historic Preservation Office, Phoenix, Arizona. Ms. McClain surveyed an historic district of 1,400 properties and made recommendations for inclusion of postwar resources in an updated NRHP historic district. She contributed to authorship of individual, district, and multiple property nominations. Additionally, Ms. McClain assisted with conference planning and statewide Historic Sites Review Committee meetings.

Aimee Kay, PWS, MS

Wetland Design Lead / Environmental Support

Education

MS, 2007, Urban and Regional Planning, Eastern Michigan University

BA,1986, Environmental Studies/Geography, Edinboro University of Pennsylvania

Registrations

Professional Wetland Scientist (PWS): #[redacted]

Skills

Natural Resource Management & Permitting

Electrical Transmission Line Siting and Approval

Ecological Studies

Wetland Delineations

Threatened and Endangered Species

Wetland Mitigation

Industry Experience

GAI Consultants, Inc., 2010 - Present

Michigan Natural Features Inventory, 2009 2010

Kay Environmental & Associates, LLC, 1992-2010

JCK & Associates, Inc., 1990-1992, 1999 2003

Washtenaw County Water Resources Commission, 1990

Institute for Fisheries Research, Michigan Department of Natural Resources, 1989

Southeast Michigan Council of Governments, 1987-1988

Northeast Ohio Coordinating Agency, 1986

Professional Summary

Ms. Kay specializes in natural resources management and permitting, urban and regional planning, and scientific-based research studies, including collecting records and evaluating ecological field data, conducting rare, threatened, and endangered (RTE) species surveys and biological inventories. She manages wetland, stream, woodland and natural resource inventories, delineations, restoration, enhancement, permitting, mitigation and monitoring services. Ms. Kay has over 20 years of project management experience, and over 30 years of experience in providing environmental studies and permitting services. She has demonstrated leadership skills as an Environmental Manager, and her skills include project management, technical plan and report writing, and business development. She has provided project environmental services in West Virginia, Pennsylvania, Michigan, Ohio, Indiana, Texas, New York, Maryland, and Virginia.

Professional Experience

- Cresson Acid Mine Drainage (AMD) Wetland and Pond Design Project, Pennsylvania Department of Environmental Protection (PaDEP), Cresson, Pennsylvania. Project Design Lead.
- Confidential Energy Project, West Virginia. Project Manager. GAI provided wetland and stream field identifications and the Wetland and Stream Field Identification Report. GAI obtained wetland and stream Obstruction Encroachment permits for this project.
- Heinze Big Slough Mitigation Site, Columbia County, Wisconsin, Wisconsin Department of Natural Resources (WDNR). Provided invasive species analysis and wetland and stream delineation for the development of this Wetland ILF Mitigation Project located in the southwestern portion of the Upper Fox River Watershed and the Big Slough Watershed of Neenah Creek, and within two privately owned parcels of approximately 80 acres.
- Turnpike Reconstruction Project, Bedford, Pennsylvania. Project Manager (Environmental). Provided oversight design services, including replacing or eliminating mainline and overhead structures. Managed in-house wetland and stream mitigation design plans and subconsultant tasks, site selection study the design manager and outside agencies. Provided oversight on environmental tasks for roadway plans, Right-of-Way (ROW) plans, erosion and sediment pollution (E&S) control plans, environmental ESA, cultural resources investigation, and construction drawings and Joint Permit Application.

- Transmission Line Area Improvements Project, West Virginia, Sargent & Lundy. Project Manager for conducting environmental studies and cultural resources consulting services 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.
- McMillan Marsh Project, Marathon County, WDNR. Provided vegetation analysis for the development of an ILF mitigation site approved by the WDNR. GAI is responsible for site identification, drafting, and finalizing a prospectus (Conceptual Mitigation Plan), baseline condition data collection, topographic and geomorphic survey, permitting, and design services.
- 27-mile, 138kV Transmission Line Rebuild Project, Texas. Project Manager. Responsibilities include wetland and stream field investigations and reports, RTE field investigations and habitat report. Project management oversight for all environmental tasks including cultural resources investigation deliverables.
- 345kV Transmission Line Project, Oklahoma. Project Manager. Responsibilities include wetland and stream field investigations and reports, RTE field investigations and habitat report. Project management oversight for all environmental tasks including cultural resources investigation deliverables for this 76-mile, 345kV new transmission line project.
- Wind Farm Project, Forbes State Forest, Pennsylvania. Project Manager. Directed staff and subconsultants for invasive Plant species survey and monitoring of a portion of the existing overhead transmission line.
- 69kV Extension Projects, Moundsville, Marshall County, West Virginia. Project Task Manager. GAI provided environmental services for the siting of this project.
- 46kV Transmission Line Rebuild Project, Raleigh County, West Virginia. Project Task Manager. GAI provided environmental services for this project.
- 138kV Transmission Line Project, Allegheny County, Pennsylvania. Project Task Manager. Responsibilities include alternatives development, route analysis and selection, agency coordination, wetland and stream field investigations and reports, siting study and environmental assessment report, preparation of PAPUC application and filing materials, public meeting participation and displays, and preparation of environmental permitting.
- Substation Expansion Project, Mercer County, Pennsylvania. Project Manager. Directed staff for wetland mitigation procurement, sub consultant tasks, environmental tasks for permitting, wetland and stream delineation work, Eastern Massasauga Rattlesnake habitat survey, National Pollutant Discharge Elimination System (NPDES), local land development permits, road permits, and geotechnical.
- Substation Expansion Project and Rebuild, FirstEnergy, Erie, Pennsylvania. Project Manager. Managed various aspects of environmental assessments, environmental inspections, and directed staff on the execution of tasks including NPDES permitting, local land development permits, road permits and wetland and stream delineation work.
- Post Construction Monitoring Project, Western Pennsylvania. Project Manager. Managed and directed environmental staff for post-construction wetland and stream monitoring and delineation tasks.
- Substation Reconfiguration and Reconductor Project, Erie County, Pennsylvania. Project Manager. Managed various aspects of environmental assessments, environmental inspections, and directed staff on the execution of tasks including NPDES permitting, botanical survey, and wetland and stream delineation work.
- Sandstone Design/Mitigation Project, City of Novi, Michigan. Project Wetland Specialist. Conducted wetland delineations, environmental planning, design, permitting and monitoring for the Sandstone Detention Basin/Mitigation project. The Contract Special Assessment District included 150 acres of watershed area to provide detention and wetland mitigation for a large planned unit development project.

Michael Holbert, PE

Roadway and Traffic Engineering Lead

Education

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

Registrations

Professional Engineer (PE): WV – 2001 #[redacted] PA – 2005 #[redacted] MD – 2017 #[redacted]

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 24 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. Clients/owners include West Virginia Department of Transportation, Division of Highways (WVDOH); Pennsylvania Department of Transportation (PennDOT); Pennsylvania Turnpike Commission (PTC); Port Authority of Allegheny County (PAAC); Maryland Department of Transportation State Highway Administration (MDOT SHA); City of Morgantown; Marshall University; Virginia Railway Express; and ENSR. 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 Morgantown, West Virginia. The project required stabilization of the hillside, road repair, drainage upgrades, and remediation below the slip.
- U.S. 340 Charles Town Road to Virginia State Line – Design-Build, Jefferson County, West Virginia. Lead Roadway Engineer. In partnership with ALL Construction, Inc., GAI is the designer for the $40 Million roadway expansion project for the WVDOH to widen the U.S. 340 corridor to four lanes from Charles Town, WV to the Virginia State line. The project improves the existing two-lane section of the U.S. 340 corridor for 5.5 miles.
- Mon-Fayette Expressway (WV 43), WVDOH District 4, Monongalia County, 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 I-68, 1.9 miles of new or reconstructed local roads, and multiple bridge, box culverts, and retaining wall structures.

- J.C. Cruikshank Memorial Bridge Replacement (CR 46), WVDOH, District 7, Clay County, 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 over the Elk River. 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.
- Upper Gassaway Bridge Replacement, WVDOH, District 7, Gassaway, 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 Elk 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.
- Miller Road Overpass, WVDOH District 2, Cabell County, 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.
- Playground Bridge (US 40), Ohio County, Indefinite Delivery/Indefinite Quantity (IDIQ), WVDOH District 6, 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 US 40 over Little Wheeling Creek with a 65-foot-long spread box girder beam bridge. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Harmon Creek to Pennsylvania State Line, Concrete Joint Repair (US 22), IDIQ, WVDOH District 6, Brooke County, 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 US 22 from the Harmon Creek Exit to the Pennsylvania State Line.
- Parrs Camp Bridge (US 250), IDIQ, WVDOH District 6, Gilmer County, 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 carrying US 250 over Parrs Run with a 20-foot by five-foot concrete box culvert. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Fink Creek W-Beam Bridge (WV 47), WVDOH District 7, Gilmer County, 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 carrying WV 47 over Fink Creek with a 175-foot-long steel girder bridge. The project included approach roadway, utility coordination, and ROW acquisition plans.
- Wells Bridge (WV 18), WVDOH District 6, Tyler County, 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 carrying West Virginia Route 18 over Middle Island Creek with an 187.5-long steel girder bridge. The project included approach roadway, utility coordination, and ROW acquisition plans.
- McDonalds/Upper Plaza (WV 2), WVDOH District 6, Moundsville, Marshall County, West Virginia. Deputy Project Manager/Civil Task Manager responsible for the development of a design study, preliminary engineering, and final engineering for the McDonalds and Upper Plaza Bridges State Project No. S326-2-19.50. The project incorporated the needs of four components to the project along West Virginia Route 2 (WV 2) in Marshall County, within the city limits of Moundsville.

Sean Uber, MBA

Survey Lead

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 all 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, 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 Department of Transportation Structure Verification studies across the entire pipeline.
- Supply Header – Surveying and Mapping Project, 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, Dominion, 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, Clarksburg, 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, Dominion, Fairmont, West Virginia. Senior Survey Technician. Performed office work, including markups, red lining, and the full tally report.
- Confidential Solar Project – Phase 1 Studies, Marion and Washington Counties, 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, Greene County, 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, Beaver County, 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 and Pennsylvania Department of Transportation (PennDOT) ROW establishment in the field. Supervised the update and completion of environmental permit and construction drawings for this fast track project.
- Coal Combustion Residual (CCR) Pond Closures Project, Dumfries, 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).
- Marcellus Shale Pipeline Project, Washington County, 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, Pike County, 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.
- Pittsburgh Water & Sewer Authority, Pittsburgh, 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.
- North Strabane Municipal Authority, Washington County, 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.

Edwin Mayhood

Computer Aided Design Lead

Education

AST, Computer Drafting and Design, ITT Technical Institute

Skills

Computer Aided Design and Drafting (CADD)

CAD Office Coordinator

Team leader and supervisor

Assist with proposal cost

Maintain and implement client and internal standards

Review drawings for quality and consistency.

Complex design and site grading

Industry Experience

GAI Consultants, Inc., 2000-Present

Professional Summary

Mr. Mayhood specializes in grading design and developing construction documents, as-built drawings, master plans, surveys and permit applications, including creating and refining conceptual and construction details. He has in-depth knowledge of AutoCAD Civil3D, as well as AutoTURN, Bluebeam PDF Revu, Adobe Photoshop, MicroStation, and Acrobat. Mr. Mayhood uses CAD software to create surveys, design site layout and grading, and create construction plans, sections, and details. He also develops cost estimates, specifications, construction phasing. Mr. Mayhood manages the Power Generation Design/Drafting team, assigning and coordinating project work with staff in order to meet schedule and budgets.

Professional Experience

- Percy Mine Fire Project, Fayette County, Pennsylvania, Pennsylvania Department of Environmental Protection (PaDEP). Senior Lead Project Designer. The PaDEP was first notified of the underground mine fire between the villages of Percy and Youngstown in 1974. Ten years later, a large cutoff trench was excavated to restrain the fire. By 1991, however, the fire began moving at an accelerated rate. In 1997, the Office of Surface Mining Reclamation and Enforcement (OSMRE) and the Bureau of Abandoned Mine Reclamation (BAMR) developed a project that established barriers to deter the advancing fire. While many emergency efforts prior to involvement by GAI addressed immediate containment problems, the resulting data set the groundwork for an attempt to extinguish the fire. PaDEP hired GAI in 2004 to investigate, design, and implement a fireextinguishment plan. In cooperation with the BAMR, Reliant Energy, and Howard Concrete Pumping, GAI recommended using Low Permeability Cementicious (LPCTM) material--a coal combustion product made by Reliant Energy--to fill the voids. This low-cost structural fill material, mixed with water and Portland cement to form a pumpable slurry, is injected into the mine workings through boreholes drilled from the ground surface to the mine. The material does not shrink as it cures and, over time, increases in strength to form an effective seal.

- Power Plant Mine Reclamation Site Study, Ohio. Senior Lead Project Designer. GAI conducted a comprehensive Site Investigation for this mine reclamation project. GAI evaluated, identified, and ranked existing abandoned mine lands as future prospective mine reclamation areas and created a Design Report based on the findings. GAI submitted a Design Report of the findings which included information gained from the Desktop Reconnaissance Site Investigation and the Detailed Site Investigation, conceptual grading plans, cost estimates for prospective reclamation areas, and design calculations.
- Monarch Mine Waste Water Project, Confidential Energy Client, Allegheny County, Pennsylvania. Senior Lead Project Designer. GAI proposed a modified design and permitting required to treat mine water containing leachate from a nearby ash landfill for a client located in Pennsylvania. The client planned to repair and modify the wastewater treatment system at the mine site to treat the mine water. Tasks included creating an Erosion and Sedimentation Control Plan, National Pollutant Discharge Elimination System permitting, Act 220 registration, and other associated work.
- Dolph Refuse and Underground Mine Fire Project, U.S. Department of Interior Office of Surface Mining, Lackawanna, Pennsylvania. Senior Lead Project Designer. Dolph Mine is an abandoned anthracite coal underground mine. The site has burning coal refuse on the surface and in the underground anthracite mine workings. The fire reportedly began from a rubbish fire on top of the culm bank. When previous efforts to extinguish the fire were not successful, GAI was selected to assist in controlling the mine fire. GAI's involvement included acquiring aerial mapping of the fire area; obtaining available mine maps; conducting a field reconnaissance of the site; drilling, monitoring and logging a series of 19 test borings and reviewing Office of Surface Mining data from earlier borings. In addition to providing recommendations for controlling the mine fire, GAI also established a downhole temperature monitoring program and database and provided interpretation of the subsurface and surface data.
- Mine Water Use in the Susquehanna River Project, PaDEP, Bureau of Abandoned Mine Reclamation, Susquehanna River Basin, Pennsylvania. Senior Lead Project Designer. GAI evaluated the use of abandoned mine pools as reservoirs to provide additional water to the Susquehanna River Basin, which encounters significantly low flows during high consumption periods. This additional water not only compensated for the low flows but also restored the stream currently affected by Acid Mine Drainage from local mines.
- Tamaqua Mine Water Problem Study, PaDEP, Bureau of Abandoned Mine Reclamation (BAMR) Tamaqua, Pennsylvania. Senior Lead Project Designer.
- North Shaft Site Mine Reclamation Project, Confidential Energy Client, Pennsylvania. Senior Lead Project Designer.
- Confidential Landfill Phase 6 and Phase 6A Permit Modification Application Project, Harrison County, West Virginia, Senior Lead Project Designer. GAI assisted in investigating and preparing long-term plans for expanding the Coal Combustion Byproducts (CCB) Landfill Facility at the Power Station. The overall total CCB Landfill Facility development plan was previously submitted to the West Virginia Department of Environmental Protection (WVDEP) as part of a Solid Waste Permit. Although accepting the entire plan as part of the permit application, the WVDEP has been granting waste placement approval in smaller steps of five-year durations. To accommodate this, GAI has assisted the client in developing the disposal site in these smaller increments identified as Phases. GAI continues the planning and identifies conceptual expansion alternatives and then develops the most advantageous development sequence.
- 2017/2018 Engineering Services for a Confidential Power Station, Harrison County, West Virginia, Senior Lead Project Designer. Engineering Services for the operational support, permit support, construction support and the 2018 construction package for the Power Station.
- Leachate Conveyance and Treatment System, Harrison County, West Virginia, Senior Lead Project Designer.

Jonathan Phoenix, MS

GIS / Mapping Lead

Education

MS, Geography, 2011, Marshall University

BA, Geography, Minor in Business Administration, 2010, West Virginia University

Skills

Geographic Information Systems

Industry Experience

GAI Consultants, Inc., 2012-2013, 2015-Present

Compass Data, Inc., 2014-2015

Glacier National Park, 2011 (Summer Intern)

Marshall University, 2010-2011(Graduate Assistant)

Grand Teton National Park, 2010 (Summer Intern)

Professional Summary

Mr. Phoenix specializes in Geographic Information Systems (GIS). He develops base maps, creates spatial data, maintains GIS databases, and creates metadata for new data. He utilizes tools such as Esri ArcGIS for Desktop and Server, including 3D Analyst and Spatial Analyst, Google Earth, and Trimble Pathfinder Office. While at Compass Data he post-processed survey grade data collections from all over the word utilizing Trimble Business Center. Such differential correction workflow processes were certified to pass certain industry standards such as the FAA DO-200A certification for meeting the Standards of Processing Aeronautical Data. Data processing also met ISO 9001:2008 certification standards.

Professional Experience

- GIS Professional Services Contract, Confidential Energy Client, United States. Project GIS Specialist for the ongoing support of the client's GIS team. Mr. Phoenix analyzes data, develops maps, and manages geospatial datasets for a variety of wind and solar projects; worked directly with individuals from the client's engineering, development, meteorology, permitting, legal, and land departments to provide efficient and accurate responses to geospatial questions, while ensuring data integrity. Mr. Phoenix has over five years of experience working with various client staff from across the country on a daily basis. The tasks required may range from maintaining project data as the project evolves to producing maps to be included in submissions to various agencies. Other common responsibilities include providing custom maps or spatial data to aid in internal decision-making processes. He aids in the creation of turbine placement constraints implemented by the client or governmental entities. He also works with the client's legal and land teams to help maintain parcel data and associated lease statuses pertaining to wind and solar farm projects.
- Well Pad Projects, Confidential Energy Client, Pennsylvania and West Virginia. Responsible for managing and maintaining GPS and GIS data for over 50 well pad.
- Well Pad and Impoundment Projects, Confidential Energy Client, Ohio and West Virginia. Responsible for managing and maintaining GPS and GIS data for over 20 well pad projects.

- Pipeline Projects, Confidential Energy Clients, Pennsylvania and West Virginia. Responsible for managing and maintaining GPS and GIS data for over 20 pipeline projects. Wetland Delineation and Stream Identification (WDSIR) mapping, field mapping, GPS digitizing, environmental impacts analysis, and GPS import file creation.
- GIS Support Services Project, Confidential Energy Client, United States. Project GIS Specialist for the development of an ArcGIS database (geodatabase). Reviewed existing datasets to conduct needs assessment, prepared geodatabase template, and consolidated and normalized information into geodatabase. Converted Excel spreadsheets and Access databases into a geospatial format. Delivered geodatabase to the client's GIS Manager and key team members using a secure Information Exchange site, in accordance with client standards for confidentiality. GAI continues to provide GIS support services to this client on an on-call basis
- 230kV Transmission Line Project, Confidential Energy Client, Fairfax County, Virginia. Conducted a route selection study to determine the best corridor for the transmission line. Responsible for mapping the data in ArcGIS pertaining to forest cover, protected lands, agricultural lands, mining or industrial activities, as well as locations of public buildings, and utility and road corridors.
- Pipeline Project, Southwestern Pennsylvania. WDSIR and General Permit mapping, field mapping, RTE mapping, GPS digitizing, environmental impacts analysis, and GPS import file creation.
- Pipe Exposure Project, Pennsylvania. WDSIR and General Permit mapping, field mapping, RTE mapping, GPS digitizing, and GPS import file creation.
- Introduction to GIS Course, Marshall University. As a graduate student at Marshall University, taught an Introduction to GIS course and was responsible for developing assignments for geography classes and creating question banks for geography tests. He also worked on a variety of projects that ranged from creating maps for student quizzes to representing the geography department at university exhibits.
- Cartographic Technician for Glacier National Park. Provided base maps and created spatial data for park staff using ArcGIS, maintained GIS databases, and created metadata for all new data. While working for the park he aided the nursery program, helping them design and implement their data collection and storage process via Trimble Juno handheld devices and ArcPad.
- Interpretation Ranger for Grand Teton National Park. Responsible for operating the Craig Thomas Discovery and Visitor Center and educating visitors about the Park. He developed, researched, and presented interpretive programs to educate visitors.

Terry Queen

Construction Management Lead

Education

Drafting and Design, 1992, West Virginia Institute of Technology

Math & Physical Education, 1986, West Virginia Northern Community College

Skills

Construction Monitoring

Civil Engineering

Subsurface Sampling and Testing

Certifications / Training

Troxler Nuclear Densometer Certified

ACI Certified

WVDOH Portland Cement Concrete Inspector

40-Hour HAZWOPER Health and Safety Training

10-Hour OSHA Construction Safety Trained

OSHA 30-Hour Hazard Recognition Training

Certified CQA Geosynthetic Materials and Compacted Clay Liner Inspector

Virginia Responsible Land Disturber Trained

WVDOH Compaction Inspector

Industry Experience

GAI Consultants, Inc., 1995-Present

Ultrasonic Specialists, Inc., 1994-1995

Dan Hill Construction Company, 1989-1992

D.E. Leonard & Associates, 1987-1988

WACO, 1986-1987

Professional Summary

Mr. Queen specializes in construction monitoring for impoundment, site closure, infrastructure, and municipal projects. He provides drafting for site planning, earthwork detailing, and pre-mining and pre-blast surveys. Mr. Queen develops preliminary and final designs for mine reclamation sites and mining permits, and site development, and prepares construction drawings for highway and bridge projects. He compiles engineering data from a variety of sources; processes data using well-defined methods and presents data in prescribed formats.

Select Professional Experience

- Abandoned Mine Lands (AML) Projects, Southern West Virginia, West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands. Assisted with preparation of hydraulic/hydrology calculations, supporting documentation for engineering construction cost estimate, U.S. Army Corps of Engineers (USACE) 404 applications, and grading of regarding of exposed refuse spoil piles for three projects.
- Participated in the preliminary and final site planning design of AML sites for the WVDEP. Surveying, design drafting, site grading, haul roads, and drainage design.
- Laurel Point Stripe Geotechnical investigation for WVDEP, Office of Abandoned Mine Lands, Laurel Point, West Virginia. Duties include monitoring of drilling activities, daily bore logs, soil and coal refuse sampling and rock core sampling.
- Greystone Mine Drainage Project, WVDEP, Office of Abandoned Mine Lands, Morgantown, West Virginia. Geotechnical investigation for this AML Project. Duties include monitoring of drilling activities, daily bore logs, soil and coal refuse sampling and rock core sampling.
- Owings Mine Complex, Harrison County, West Virginia. Evaluated water quality and potential passive Acid Mine Drainage (AMD) treatment system design at the mine complex site. Project included identifying monitoring points (streams and AMD discharges), sampling monitoring points for three months and drafting conceptual design of passive AMD treatment system.
- Owings Mine Complex, Harrison County, West Virginia. Subsurface investigation, grading and drainage design for four refuse piles and various other refuse areas, design of seals for 18 mine portals.

- Latrobe (Gibson) Landslide II Project, WVDEP, Office of Abandoned Mine Lands, Latrobe, West Virginia. Engineering work required to initiate an abatement plan to stabilize the hillside and abate the hazards associated with the land movement for the landslide.
- Omega Mine Complex, WVDEP, Office of Abandoned Mine Lands, Monongalia County, West Virginia. Prepared construction documents for the project. The project involved the injection of coal combustion byproduct grouts into mine workings to help alleviate the generation of AMD. Work included preparation of drawings.
- Harris AMD Project, WVDEP, Office of Abandoned Mine Lands, Harrison County, West Virginia. Prepared construction documents for the Harris AMD site. Project included designing channels, wet seals, drain pipes, and preparing drawings.
- Monitored construction of 600,000 cubic yard rock buttress for a failed coal slurry impoundment. Work included monitoring of activities, troubleshooting, preparing daily logs and construction administration coordination for the WVDEP.
- Construction monitoring for closure of municipal solid waste landfills. Work included monitoring construction activities, preparing daily reports and trouble shooting in Fayette, Kanawha, Mingo, and Braxton Counties for the WVDEP, Office of Waste Management. Closure activities included waste regrading, leachate collection, and soil caps.
- Water supply inventories and water sample collection for the Phase II water feasibility study for the Weaver-Junior Study Area in Barbour and Randolph Counties, West Virginia for the WVDEP.
- Construction monitoring for reclamation of a failed coal slurry impoundment. Construction included earthwork, rock buttress, and drainage channels.
- Construction oversight for a landslide reclamation project of a valley fill in Fayette County, West Virginia. Construction included collecting drainage in rock drains, rock buttress, earthwork, and drainage channels.
- Well Pad Project, Marshall and Wetzel Counties, West Virginia. Lead construction monitor inspector. Work included monitoring slope stabilization for failed well pads, erosion and sediment control best management practices associated with development of well pads, and the Blake Fork stream restoration.
- Duhring Street Pony Truss Bridge Replacement Project, West Virginia Department of Transportation, Division of Highways (WVDOH), Town of Bramwell, Mercer County, West Virginia. Performed geotechnical investigation services for the project. Construction was completed in 2016.
- Willowwood Bridge Replacement Project, WVDOH, Summers County, West Virginia. Performed geotechnical investigation services for the project. Duties include monitoring of drilling activities and daily bore logs, soil sampling, and rock core sampling.
- Shotcrete Soil/Rock Nail South Wall and North Wall Complex Project, Power Plant Flue-gas Desulfurization (FGD) Landfill. Performed construction monitoring services for the project. Project included two soil nail shotcrete wall up to 70 feet in height, sedimentation pond, leachate holding basin, leachate and electrical pipeline and conduit to connect to the South Pond Complex, and installation of a 72-inch diameter clean water diversion culvert.
- Assisted with preparing National Pollutant Discharge Elimination System (NPDES) Stormwater construction permits and erosion and sediment control plans for three natural gas transmission pipeline projects in West Virginia and Pennsylvania.
- Prepared construction documents for a subsidence project in Fairmont, West Virginia. Project involved drafting of layout of injection plan for grouting under three residences; and preparing drawings.
- Geotechnical investigation for the WVDOT Summersville Regional DMV Office in Nicholas County, West Virginia. Duties include monitoring of drilling activities, daily bore logs, soil and coal refuse sampling and rock core sampling.

Thomas Heasley, PG

Quality Assurance Lead

Education

BS, Geology, 1987, Kent State University

Registrations

Professional Geologist (PG): WY

#[redacted]

Skills

Geosynthetic Engineering Applications and Design

Regulatory Compliance

Certifications / Training

OSHA Construction Outreach Trainer No. 209837

Nuclear Density Training Certification

NICET Engineering Technician Level I, 1993

OHSA 1910.120 Health and Safety Training

Industry Experience

GAI Consultants, Inc., 2013-Present

Geo-Synthetics, Inc., 2004-2013

GSE Lining Technologies, 2002-2004

Serrot International, 2001-2002

Golder Associates, Inc., 1988-2001

Solar Testing Laboratories, Inc., 1986-1988

Professional Summary

Mr. Heasley is a Senior Project Geologist who specializes in quality control for field installation of geosynthetics materials, soil fills, and concrete placement. Additionally Mr. Heasley has performed site investigations, and foundation and utility installations. He reviews technical specifications and matches site specific conditions with material requirements.

Adept at problem solving and dispute resolution, Mr. Heasley interprets problems and develops design packages that meet regulatory agency standards and approval.

Professional Experience

- Coal Combustion Byproduct (CCB) Landfill, West Virginia. QA/QC Supervisor for a 9-acre ash landfill project which involved the installation of various geosynthetic materials, piping and soil fills. Responsibilities included contractor coordination, interpreting drawings, specifications and permit requirements; soil compaction control testing; installation and testing of geomembranes and geosynthetics; project documentation; and preparation of construction certification reports.
- 138kV Transmission Lines Project, Harrison County, West Virginia. Supervised the installation of two earthen pad fill for supporting cranes to install transmission line structures.
- Substation Project, Wetzel County, West Virginia. Supervised the nighttime construction of approximately 80 feet of earthen fills for a substation foundation. Activities included field QA/QC monitoring and testing of compacted and reinforced fills, drainage, and sedimentation structures.
- Energy Center, Wise County, Virginia. Supervised grouting of abandon mines prior to site development and construction.
- 230kV Transmission Line Project, Virginia. Provided concrete testing, on-site monitoring, and QA/QC services for the Project, which consisted of rebuilding the 230kV transmission line that extends from Endless Caverns to Harrisonburg, VIRGINIA. The line was approximately 20 miles long and included approximately 185 new structures.

- 230kV Transmission Line Project, Virginia. Provided concrete testing, on-site monitoring, and QA/QC services for the project which consisted of rebuilding the 230kV transmission line. The line was approximately 45 miles long and included approximately 195 new structures.
- Transmission Relocation Project, Beaver County, Pennsylvania. Monitor foundation installation for the project which consisted of the relocation of 138kV and 69kV overhead transmission lines.
- Cryo Plant Project, River, Washington County, Pennsylvania. Monitoring, logging and obtaining field samples for drilling project which involved conducting a final subsurface exploration for the facility. The purpose of the final subsurface exploration program was to provide information on the soil, rock, and groundwater at the site and provide foundation design recommendations. GAI performed the preliminary geotechnical investigation for the site that included five borings and material testing to provide a preliminary characterization of the site.
- Compressor Station Project, Wetzel County, West Virginia. Monitoring and testing of a cement stabilized soil for the construction of a compressor station along with 0.4-mile of pipeline.
- Pipeline Extension Project, Baltimore County, Maryland. Monitored, logged, and sampled drilling operations as part of the geotechnical subsurface investigation and laboratory testing program for the Horizontal Directional Drilling at to incorporate into engineering analyses and design for the proposed pipeline replacement. The subsurface investigation consisted of test borings including soil sampling and rock coring.
- Transmission Line Design Project, Washington County, Virginia. Provided concrete testing, on-site monitoring, and QA/QC services for the project which consisted of installing a two-mile double circuit 69kV (constructed to 138kV) transmission line loop from the existing transmission line to the substation.
- Quality Control Manager for Geo-Synthetics, Inc. Responsibilities consisted of instituting a quality control program for field installation of geosynthetic products; technical review of project specifications matching manufactured materials and installation techniques to project demands; working with clients, site owners, and engineers regarding materials properties, installation methodology, site specific conditions, and material requirements; interpreting problems, resolving conflicts, and assisting with dispute resolutions; and preparing technical data, letters, and submittals for clients for presentation to engineers and state regulatory agencies. Responsibilities also consisted of writing and implementation of a corporate Health and Safety Manual and policies and training for field crews in the OSHA 500 Construction Industry ten and thirty hour safety courses.
- Project Geologist for Golder Associates Inc. Responsibilities progressed from entry-level construction quality assurance monitoring and testing to Assistant Construction Manager and Project Manager involving administration and coordination of labor and equipment; supervision of work activities and contractor's progress; quantity survey and verification; contract pay applications; working with project designers and owner to resolve conflicts and assist in dispute resolutions; administration and coordination of office, laboratory, and field staff activities; training of field staff and clients in all aspects of construction quality assurance associated with soils, geosynthetic liners, and closures; preparing field data for presentation to regulatory agencies for mining and waste containment facilities; assisting with field QA/QC operations and laboratory testing of geosynthetics and soil liner components field construction quality assurance monitoring and laboratory testing of geosynthetic and soil liner components; calibration of field and laboratory equipment for civil earth works and geotechnical projects.
- Field Technician for Solar Testing Laboratories Inc. Responsibilities included field testing and observation of soils and concrete for commercial and residential structures; construction quality control testing, monitoring, and observation for a major tunneling project in the Cleveland area.

APPENDIX C

SIGNED SOLICITATION NO. CEOI 0313 DEP22000017

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: 1047660 **Doc Description:** EOI - 2022 AML Contract 8 Project North **Proc Type:** Central Purchase Order			**Reason for Modification:**
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2022-05-31	2022-06-23 13:30	CEOI 0313 DEP2200000017	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 : Bridgeport Office

Street : 107A Cambridge Place

City : Bridgeport

State : West Virginia **Country :** United States **Zip :** 26330

Principal Contact : Charles Straley, PE, PLS, MS

Vendor Contact Phone: 304.541.0854 **Extension:**

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

Vendor Signature X **FEIN#** 25-1260999 **DATE** June 22, 2022

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

ADDITIONAL INFORMATION

The Acquisitions and Contract Administration Section of the Purchasing Division is soliciting an Expression of Interest for the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML), from qualified firms to provide architectural/engineering services for the Brownton Refuse #2 project to provide planning, realty, design, and construction services for the 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	Professional Svcs - Brownton Refuse #2		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Professional Svcs - Brownton Refuse #2

SCHEDULE OF EVENTS

Line	Event	Event Date

EXPRESSION OF INTEREST

2022 AML Contract 8 Project – North CRQS: DEP22*62

Disclaimer: Effective July 1, 2020, the Purchasing Division will accept electronic proposals for Expressions of Interest via the Vendor Self-Service portal within wvOASIS. Paper submissions after this date are still acceptable.

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2. **Section One: General Information**
3. **Section Two: Instructions to Vendors Submitting Bids**
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5. **Section Four: Vendor Proposal, Evaluation, and Award**
6. **Section Five: Terms and Conditions**
7. **Certification and Signature Page**

SECTION ONE: GENERAL INFORMATION

1. **PURPOSE:** The Acquisitions and Contract Administration Section of the Purchasing Division is soliciting an Expression 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), from qualified firms to provide architectural/engineering services ("Vendors") as defined herein.

2. **PROJECT:** The mission or purpose of the Brownton Refuse #2 project for which bids are being solicited is to provide the subsequent planning, realty, design, and construction services for the project; including but not limited to (as may be applicable to the project):

    - National Environmental Policy Act (NEPA) consultations and documentation
    - Public Participation
    - Infrastructure Investment Jobs Act (IIJA) compliance
    - Determine legal ownership of properties
    - Obtain exploratory and construction rights of entry
    - Provide legal documentation to substantiate legal ownership findings
    - Provide current mapping, perform survey and other related services
    - Perform Site and Geotechnical Investigations
    - Design temporary and permanent access or accesses for construction and future maintenance
    - Design portal seals and regrades
    - Design to mitigate AMD drainage and water impoundments

- Design of drainage conveyances, including drainage channels, underdrains, and/or other controls to safely convey water off-site
- Design reclamation of exposed coal refuse and mine spoil
- Design for reclamation of highwalls
- Condition and revegetate all disturbed areas
- Construction quality assurance and quality control (QA/QC)
- Provide resident project representative/inspector
- Prepare daily construction activity logs summarizing activities
- Provide engineering support and services throughout construction
- Provide Engineers certification report

3. SCHEDULE OF EVENTS:

Release of the EOI..... .....05/31/2022
Written Questions Submission Deadline. 06/17/2022
Addendum Issued ……..……TBD
Expressions of Interest Opening Date.....06/23/2022
Evaluation Committee List of the Highest Qualified Firms Provided……..TBD
Estimated Date for Interviews of the Firms…..TBD
Price Negotiations Commence with Highest Ranked Firm ……TBD

EXPRESSION OF INTEREST

2022 AML Contract 8 Project – North CRQS: DEP22*62

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 e-mails should have solicitation number in the subject line.

Question Submission Deadline: 06/17/2023 @ 4:00 PM ET

Submit Questions to: Josh Hager
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-3970
Email: Joseph.E.HagerIII@wv.gov

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 _____ 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:
BUYER: Josh Hager
SOLICITATION NO.: CEOI 0313 DEP2200000017
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: 06/23/2022 @ 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(a)(7) 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 should be familiar with and have successful track record of design of similar projects. The anticipated contract will be for "full service" A/E design. Aspects of the design are to include, but not be limited to; Civil, Geological and Hydrological.

   The successful A/E Firm will be responsible for Design of the following (as may be applicable for the Project as listed in Section One):

   - Access or accesses as required.
   - Geotechnical investigation and analyses.
   - Landslide Stabilization(s).
   - Hydrologic and hydraulic analyses.
   - Clear and grub affected areas.
   - Regrade as necessary.
   - Install drainage channels, underdrains, and/or other controls to safely convey water off-site.
   - Condition and revegetate all disturbed areas.
   - Obtain required permits as determined at the Pre-Design Meeting.

   Preliminary design documents will be due 90 days from the issuance of the Purchase Order, unless specified otherwise during the Pre-Design Meeting.

   Locations: Project is in Barbour County.

   Project: Brownton Refuse #2 is located at the western side of the Community of Brownton, in Barbour County, WV, off CR 1/6 (Bear Mountain Road). The project is for the regrade and soil cover of exposed coal refuse, reclamation of highwall (up to near 100-foot high), mitigation of water impoundments, and installation, repair and/or replacement of proposed and/or existing drainage controls and features.

   The Sites are around multiple residences; potential vendors are not to show up on occupied residences. A site visit will be performed with the Highest Scoring Vendor during the Negotiation Phase of this solicitation.

2. **Project Goals:** The project goals and objectives include but are not limited to that as listed below. Vendors should discuss any anticipated concepts and proposed methods of

approach for achieving each of the listed goals and objectives:

2.1. NEPA tasks and IIJA compliance.

2.2. Determine legal ownership of properties and provide legal documentation to substantiate legal ownership findings (if required).

2.3. Develop construction plans and technical specifications for all aspects to reclaim mine portals, drainage controls and systems, slope stabilization, coal refuse reclamation, stream restoration, highwall reclamation, limits of disturbance, storm water and erosion and sediment control, regrade and revegetation, and all other conditions encountered on the project sites.

2.4. Obtain/maintain/release all required permits.

2.5. Provide resident project representative, QA/QC certification, and prepare daily field activity logs summarizing construction activities.

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 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 submitted proposal, 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 Selection Committee. The Committee will schedule the interviews. The format for the interviews will be a 15 to 30-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, 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 the firms which in their opinion are the best qualified to perform the desired service.

3.1.2. conduct interviews with each of the firms selected.

3.1.3. rank the 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 that have been determined most qualified to perform the desired service. The evaluation criteria are defined in the Procurement 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. Surveying/Mapping c. Drilling/Geotechnical	(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 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 One Thousand Ninety Five (1,095) 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.

[ ] **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.

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:

[ ] **BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

[ ] **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

[ ] **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under $100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

[ ] **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

[ ] **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.

[ ]

[ ]

[ ]

[ ]

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 and must include the State as an additional insured on each policy 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: $1,000,000.00 per occurrence.

[✓] **Automobile Liability Insurance** in at least an amount of: $1,000,000.00 per occurrence.

[✓] **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: $1,000,000.00 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.

[ ]

[ ]

[ ]

[ ]

Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

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. [Reserved]

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 CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) 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; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall 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. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

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.

(Name, Title) _____

(Printed Name and Title) Charles Straley, PE, PLS, MS - Senior Engineering Manager/Associate

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

(Phone Number) / (Fax Number) T.304.541.0854/ F. 304.926.8180

(email address) c.straley@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 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)

_____
(Authorized Signature) (Representative Name, Title)
Charles Straley, PE, PLS, MS - Senior Engineering Manager / Associate
(Printed Name and Title of Authorized Representative) (Date)
T. 304.541.0854 / F. 304.926.8180
(Phone Number) (Fax Number)
c.straley@gaiconsultants.com
(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI 0313 DEP2200000017

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

Authorized Signature

June 22, 2022
Date

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

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

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
2022 AML Contract 8 Project North	5/31/2022	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 (YEAR)	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/Asst Secretary: 412.399.5192 Karl Palvisak, Sr. VP / Treasurer / Secretary: 321.319.3021

9. PERSONNEL BY DISCIPLINE

102 ADMINISTRATIVE	6 ECOLOGISTS	13 LANDSCAPE ARCHITECTS	52 STRUCTURAL ENGINEERS
0 ARCHITECTS	1 ECONOMISTS	8 MECHANICAL ENGINEERS	10 SURVEYORS
11 BIOLOGIST	16 ELECTRICAL ENGINEERS	2 MINING ENGINEERS	53 TRAFFIC ENGINEERS
43 CADD OPERATORS	51 ENVIRONMENTALISTS	0 PHOTOGRAMMETRISTS	111 OTHER
0 CHEMICAL ENGINEERS	5 ESTIMATORS	14 PLANNERS: URBAN/REGIONAL	
129 CIVIL ENGINEERS	13 GEOLOGISTS	0 SANITARY ENGINEERS	
33 CONSTRUCTION INSPECTORS	3 HISTORIANS	11 SOILS ENGINEERS	
30 DESIGNERS	4 HYDROLOGISTS	5 SPEC WRITERS	726 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 1984, GAI has completed more than 140 projects for the WVDEP-AML&R. GAI's proposed Project Advisor, Charles Straley, out of our Charleston Office, has worked on over 95 of these projects, and has managed 71 of these projects.

GAI's proposed Project Manager, Mr. Jason Gandee, out of our Charleston office, has over 14 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.

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:	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 WVDEP-AML&R over the past 37 years. GAI has completed over 175 projects for all AML Programs (WV, PA, VA, MD, 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-AML&R 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-AML&R 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-AML&R 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-AML&R program. Additionally, AMD was a consideration on most of the 140+ WVDEP-AML&R 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. Assistant Engineering Manager	11	14	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 detailed stop-by-step Project work plans to ensure 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 30 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) Geo-Institute	

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 is GAI's proposed Project Advisor for this Project. He has managed 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)
National Society of Professional Engineers, Member Society of American Military Engineers, Member	Professional Engineer (PE), 1993, WV Professional Engineer (PE), 1995, OH Professional Engineer (PE), 1996, KY Professional Engineer (PE), 2007, IN 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. Engineering Manager	23	16	0

Brief Explanation of Responsibilities

Mr. Splitstone 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 23 years of engineering experience developing geotechnical investigations, treatment schemes, details, plans, and specifications for various design projects. 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:
Schoon, Keith, L. Project Engineer	0	12	0

Brief Explanation of Responsibilities

Mr. Schoon is a Senior Project Engineer at GAI with over 12 years of experience specializing in geotechnical engineering and will support the Lead Geotechnical Engineer for this Project. His experience includes embankment stability analyses and remediation recommendations, seepage analyses, design of deep foundations and retaining structures and geotechnical investigations. He also has experience in construction engineering and inspection, plan preparation, quantity take-offs, cost estimating, and proposal and report writing. Additionally, he received Mining Engineering Certification from the University of Pittsburgh.

EDUCATION (Degree, Year, Specialization)

MS, 2013, Civil Engineering, University of Pittsburgh
BS, 2010, Civil Engineering, University of Pittsburgh

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers (ASCE) Geo-Institute	Professional Engineer (PE), 2017, PA

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. Civil Technical Leader	0	14	0

Brief Explanation of Responsibilities

Ms. Berkes is GAI's proposed Hydrology and Hydraulics Engineering 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:
Bortz, Kevin, M. Engineering Manager	2	34	0

Brief Explanation of Responsibilities

Mr. Bortz is an Engineering Manager with GAI and has over 34 years of experience specializing in hydrology and hydraulics, natural stream restoration, erosion and sedimentation (E&S) control, and stormwater management, as well as general civil engineering and surveying. He will support the Hydrology and Hydraulics Engineering Lead for this Project. Mr. Bortz manages projects and provides hydrologic and hydraulic (H&H) design and analysis for natural stream restorations, culverts, channels, ponds, dams, stream encroachments, and impoundments in West Virginia, Pennsylvania, Maryland, Ohio, Indiana, and Virginia. Mr. Bortz has extensive experience with hydrologic/hydraulic computer models including: HEC-RAS, HEC-HMS, Storm CAD, EPA SWMM, DAMBRK, PSRM, SCS TR-20, SCS TR-55, HEC-1, HEC-2, CYBERNET, and WSPRO.

EDUCATION (Degree, Year, Specialization)
MS, 1989, Civil Engineering, University of Pittsburgh
BS, 1987, Civil Engineering, University of Pittsburgh

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer (PE), 1995, PA Professional Engineer (PE), 2016, VA Professional Engineer (PE), 2018, NC

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	1	16	3

Brief Explanation of Responsibilities

Mr. Fisher is GAI's proposed Lead Civil Engineer for this Project and will provide his expertise in this area. 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:
Webster, David, I. Senior Project Engineer	1	9	0

Brief Explanation of Responsibilities

Mr. Webster serves as a Senior Project Engineer for GAI's Power Generation Group. He will support GAI's Lead Civil Engineer for this Project. He has been involved in the analysis, design and review of West Virginia Department of Transportation, Division of Highways' (WVDOH's) drainage projects including but not limited to, bridges, stormwater systems, retention and sediment ponds, roadway drainage and natural steam design. His nine years of experience includes preparing, Hydrologic and Hydraulic design and reports, Federal Emergency Management Agency (FEMA) no-rise floodplain certificates, National Pollutant Discharge Elimination System (NPDES) permits, and roadway and right-of-way (ROW) plans. He is currently performing civil engineering services for the WVDEP Belle (Sneed) Drainage Project.

EDUCATION (Degree, Year, Specialization)
BS, 2013, Civil Engineering, West Virginia University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer (PE), 2017, WV Professional Engineer (PE), 2017, NC Professional Engineer (PE), 2020, KY

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:
Sciulli, A., Edward Senior Hydrogeology Manager	35	35	0

Brief Explanation of Responsibilities

Mr. Sciulli is GAI's proposed Lead Geologist for this Project and will provide his expertise in this area. He is a Senior Hydrogeology Manager with GAI who has over 35 years of experience specializing in managing small and large-scale remedial and site investigations, feasibility studies, and geophysical surveys. His diverse skill set includes experience in conducting watershed assessments related to former mining activities and abandoned mine land/watershed restoration planning. He is highly experienced conducting soil and groundwater evaluation, remediation, aquifer testing, contaminant fate and transport valuations, hazardous and solid waste regulation, and environmental health and safety. Mr. Sciulli also conducts Phase I & II Environmental Site Assessments and is instrumental in designing and implementing site investigations.

EDUCATION (Degree, Year, Specialization)
BS, 1996, Geosciences, Pennsylvania State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
National Groundwater Association Environmental and Engineering Geophysical Society	Professional Geologist (PG), 1994, PA Professional Geologist (PG), 2018, NY Project Management Professional (PMP), 2009

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 Geologist	1	5	0

Brief Explanation of Responsibilities

Mr. Sollenberger serves as a Project Geologist for GAI's Power Generation Group and will support 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:
Cook, Charles, A. Lead Environmental Specialist	0	15	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	14	0

Brief Explanation of Responsibilities

Mr. Mann 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 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.

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 Cultural Resources Group Manager/ Senior Director of Engineering	0	34	0

Brief Explanation of Responsibilities

Mr. Resnick has more than 30 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.

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:
Arco, Lee, J. Project Archaeologist	0	15	0

Brief Explanation of Responsibilities

Mr. Arco is GAI's proposed Lead Archaeologist and Principal Investigator for this Project. He exceeds the professional requirements of the United States Secretary of Interior Standards for Archaeology (as defined in 36 CFR 61). He specializes in geoarchaeology, cultural resource management, and environmental permitting with extensive experience throughout the Southeast, Midwest, and Mid-Atlantic United States. He has 13 years of experience leading archaeological projects and has managed up to 30 staff during project completion schedules. His research/publication background includes geomorphological studies of the evolution and chronology of the Holocene Mississippi River System, geoarchaeological assessment of mounds/earthworks, as well as identification and investigation of deeply buried archaeological sites within alluvial environments. Mr. Arco is also trained in soil/sediment core extraction, laboratory characterization of soils/sediments, micromorphological analyses, and in GIS software applications.

EDUCATION (Degree, Year, Specialization)
MA, 2006, Anthropology (Geoarchaeology), Washington University in St. Louis
BA, 2003, Anthropology, summa cum laude, Valedictorian, Phi Beta Kappa, Ohio University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society of American Archaeology Southeastern Archaeological Conference Geological Society of America	Register of Professional Archaeologists (RPA), 2012

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:
McClain, Paula, L. Senior Architectural Historian	0	6	0

Brief Explanation of Responsibilities

Ms. McClain is GAI's proposed Senior Architectural Historian for this Project and meets the Secretary of the Interior's Professional Qualification Standards for History and Architectural History (as defined in 36 CFR Part 61). She specializes in conducting historic resource surveys and archival research, and has a working knowledge of the rules and regulations guiding Section 106 of the NHPA of 1966, as amended. She has conducted small- and large-scale cultural resource assessment surveys for various state and federal agencies, as well as organizations in both the public and private sectors. Ms. McClain also brings experience and proficiency in cooperating with local and governmental entities and officials, serving as the architectural and construction monitor for historic rehabilitation grants administered by the State Historic Preservation Office (SHPO) and the U.S. National Park Service (NPS).

EDUCATION (Degree, Year, Specialization)
Bachelor of Interdisciplinary Studies, 2015 Arizona State University, magna cum laude

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Preservation Alliance of West Virginia - Board Member Monongalia County Historic Landmarks Commission - Commissioner	

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:
Kay, Aimee, M. Environmental Manager	6	20	0

Brief Explanation of Responsibilities

Ms. Kay is GAI's proposed Wetland Design Lead and will provide environmental support, as needed for this Project. She specializes in natural resources management and permitting, urban and regional planning, and scientific-based research studies, including collecting records and evaluating ecological field data, conducting rare, threatened, and endangered (RTE) species surveys and biological inventories. She manages wetland, stream, woodland and natural resource inventories, delineations, restoration, enhancement, permitting, mitigation and monitoring services. Ms. Kay has over 20 years of project management experience, and over 30 years of experience in providing environmental studies and permitting services. She has demonstrated leadership skills as an Environmental Manager, and her skills include project management, technical plan and report writing, and business development.

EDUCATION (Degree, Year, Specialization)
MS, 2007, Urban and Regional Planning, Eastern Michigan University
BA, 1986, Environmental Studies/Geography, Edinboro University of Pennsylvania

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Wetland Scientist (PWS), 2016

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:
Ealy, Linda, J. Project Environmental Specialist	0	25	0

Brief Explanation of Responsibilities

Ms. Ealy is GAI's proposed Wetlands and Environmental Support for this Project. She specializes in wetland delineations, vegetative surveys, wetland functional assessments, wetland mitigation design, wetland monitoring, and revegetation specifications. She performs field investigations and environmental impact analyses, prepares supporting documents relative to wetlands and plant ecology, and provides water quality and biological sampling of streams. Ms. Ealy has performed rare, threatened, and endangered (RTE) species surveys at project locations throughout the Eastern United States, identifying potential habitats and coordinating with resource agencies. Ms. Ealy provides wetland identification and delineation surveys for highway and site development projects, and prepares technical summary reports containing detailed information on vegetation, soils, and hydrology. She performs evaluations of wetland functions and values; designs mitigation wetlands for highway, electric industry, and site development projects; prepares conceptual plans and technical specifications for mitigation wetlands; and conducts wetland monitoring.

EDUCATION (Degree, Year, Specialization)
MS, 1986, Biology, Slippery Rock University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society of Wetland Scientists, Member Botanical Society of Western Pennsylvania, Member Connoquenessing Watershed Association, Member	Senior Professional Wetland Scientist (SPWS), 2020 Professional Wetland Scientist (PWS), 1995

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	25	0

Brief Explanation of Responsibilities

Mr. Holbert is GAI's proposed Roadway and Traffic Engineering Lead for this Project. He has 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 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:
Hartman, Steph, M. Assistant Engineering Manager	0	10	0

Brief Explanation of Responsibilities

Ms. Hartman serves as an Assistant Engineering Manager for GAI's Structures group and will provide Roadway and Traffic Engineering Support for this Project. She has been involved in the design of highway facilities as well as non-traditional projects throughout West Virginia during the alternatives analysis, preliminary design, and final design phases for entities such as the West Virginia Department of Transportation, Division of Highways (WVDOH), local municipalities, and non-profit organizations. Ms. Hartman prepares right-of-way, roadway, utility, and recreational trail plans; as well as designs horizontal and vertical alignments, superelevation, guardrail, drainage, and ADA features. Her 11 years of experience includes preparing geometrics, quantity and design calculations, cost estimates, and roadway and right-of-way plans.

EDUCATION (Degree, Year, Specialization)
MS, 2013, Civil Engineering, West Virginia University
BS, 2011, Civil Engineering, West Virginia University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer (PE), 2018, 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:
Uber, Sean, D. Assistant Survey Manager	0	20	0

Brief Explanation of Responsibilities

Mr. Uber is GAI's proposed Survey Lead for this Project. He 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 all 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, 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:
Romano, Louis Lead Designer	0	26	0

Brief Explanation of Responsibilities

Ms. Romano will providing Surveying Design Support to GAI's Survey Lead. He specializes in advanced 2D and 3D design from field to finish of highway improvement and paving projects utilizing MicroStation/InRoads. His skills also include providing, analyzing, and interpreting digital survey data and stakeout for roadway and bridge design, right-of-way, utilities, and highway construction projects. As an employee with the West Virginia Department of Transportation, Division of Highways (WVDOH) for 10 years, Mr. Romano has a deep understanding of WHDOH practices, software, and procedures. Additionally, as a surveyor, Mr. Romano previously served as an instructor at the University of West Virginia; he currently leads his own surveying practice—a further testament to his knowledge and expertise in this field.

EDUCATION (Degree, Year, Specialization)
AAS, 1977, Forest Technology/Forest Engineering, State University of New York, cum laude

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Land Surveyor (PLS), 1995, 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:
Mayhood, Ed Senior Lead Project Designer	5	22	7

Brief Explanation of Responsibilities

Mr. Mayhood is GAI's proposed Computer Aided Design Lead. He specializes in mine reclamation projects, grading design and developing construction documents, as-built drawings, master plans, surveys and permit applications, including creating and refining conceptual and construction details. He has in-depth knowledge of AutoCAD Civil3D, as well as AutoTURN, Bluebeam PDF Revu, Adobe Photoshop, MicroStation, and Acrobat. Mr. Mayhood uses CAD software to create surveys, design site layout and grading, and create construction plans, sections, and details. He also develops cost estimates, specifications, construction phasing. Mr. Mayhood manages the Power Generation Design/Drafting team, assigning and coordinating project work with staff in order to meet schedule and budgets.

EDUCATION (Degree, Year, Specialization)
AST, 2000, Computer Drafting and Design, ITT Technical Institute

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:
Phoenix, Jonathan, D. Project GIS Lead	2	10	0

Brief Explanation of Responsibilities

Mr. Phoenix is GAI's proposed GIS/Mapping Lead for this Project. He specializes in Geographic Information Systems (GIS), developing base maps, creating spatial data, maintaining GIS databases, and creating metadata for new data. He utilizes tools such as Esri ArcGIS for Desktop and Server, including 3D Analyst and Spatial Analyst, Google Earth, and Trimble Pathfinder Office. While at Compass Data he post-processed survey grade data collections from all over the word utilizing Trimble Business Center. Such differential correction workflow processes were certified to pass certain industry standards such as the FAA DO-200A certification for meeting the Standards of Processing Aeronautical Data. Data processing also met ISO 9001:2008 certification standards.

EDUCATION (Degree, Year, Specialization)
MS, 2011, Geography, Marshall University
BA, 2010, Geography, 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:
Wasielewski, Amanda, J. Project GIS Specialist	0	11	0

Brief Explanation of Responsibilities

Ms. Wasielewski will provide Mapping/GIS Support for this Project. She specializes in Geographic Information Systems (GIS) data and programs. Her responsibilities include coordinating all aspects of GIS work for the cultural resources department, GIS data development, maintaining data developed in-house and from clients, cultural resource impact analysis for various local, state and federal permits, map generation, determining mapping needs, and directing other employees in data or mapping development projects. Ms. Wasielewski is experienced at archival research and data acquisition. She is highly proficient with the ArcGIS program, and has earned ESRI training certificates and completed graduate level courses, and was a teaching assistant for an advanced GIS course at the University of Pittsburgh.

EDUCATION (Degree, Year, Specialization)
MS, 2009, Geographic Information Systems, University of Pittsburgh
BA, 2006, Anthropology, Indiana University of Pennsylvania

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:
Queen, Terry, W. Lead Construction Coordinator	27	27	0

Brief Explanation of Responsibilities

Mr. Queen is GAI's proposed Construction Management Lead for this Project and will provide his expertise in this area. He will provide construction monitoring and construction administration services, and will be responsible for collecting field data, including but not limited to water samples, soil borrow samples, refuse samples, and verification of mapping. Mr. Queen specializes in construction monitoring, drafting for site planning, earthwork detailing, and pre-mining and pre-blast surveys. His experience includes developing preliminary and final design for mine reclamation sites, mining permits, and site development.

EDUCATION (Degree, Year, Specialization)
AD, 1992, Drafting and Design, West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	WVDOH Portland Cement Concrete Inspector; WVDOH Compaction Inspector; ACI Certified; Certified CQA Geosynthetic Materials and Compacted Clay Liner Inspector

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	20	0

Brief Explanation of Responsibilities

Mr. Sutton will be providing Construction Management Support for this Project. He has nearly 30 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 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

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:
Heasley, Thomas, A. Senior Project Geologist	5	35	0

Brief Explanation of Responsibilities

Mr. Heasley will provide Quality Assurance Support for this Project. He is a Senior Project Geologist with GAI who specializes in quality control for field installation of geosynthetics materials, soil fills, and concrete placement. Additionally Mr. Heasley has performed site investigations, and foundation and utility installation. He reviews technical specifications and matches site specific conditions with material requirements. Adept at problem solving and dispute resolution, Mr. Heasley interprets problems and develops design packages that meet regulatory agency standards and approval. He is a Certified OSHA Construction Outreach Trainer and is NICET Engineering Technician Level 1 Certified. Prior to GAI, he was a Quality Control Manager for Geo-Synthetics, Inc., where he was responsible for instituting a quality control program for field installation of geosynthetic products, technical review of product specifications, installation methodology, site-specific conditions, and preparing technical data, letters, and submittals for clients for presentation to engineers and state regulatory authorities.

EDUCATION (Degree, Year, Specialization)
BS, 1987, Geology, Kent State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Geologist (PG), 1993, WY

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:
Acree, Kaleb, M. Project Engineer	2	5	0

Brief Explanation of Responsibilities

Mr. Acree is GAI's proposed Quality Assurance Lead for this Project. He specializes in civil engineering with a background in Construction Quality Assurance (CQA), erosion and sediment control, permitting, report preparation, bridge inspection, and preparation of engineering calculations. He has obtained a Responsible Land Disturber Certificate from the Virginia Department of Environmental Quality and has experience with environmental compliance and inspections. Mr. Acree also is a Certified Grade 1 ACI Concrete Testing Technician. Mr. Acree's experience includes preparing the conceptual grading plan for the Charleston Riverfront Park in the City of Charleston, West Virginia. He also assisted in the development of construction drawings and developing the analysis approach for the Elk River's hydraulic model.

EDUCATION (Degree, Year, Specialization)
BS, 2015, Civil Engineering, West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer (PE), 2021, WV

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 all 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 all Disturbed Areas	75,055 (fee)	25%
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%
Upper Gassaway Bridge Replacement Project; Phase 1 Design Study, Final Design, Contract Plans, and Related Documents; Braxton County, WV	WVDOH 1900 Kanawha Boulevard East, Building 5, Room 110, Charleston, WV 25305-0430	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 carrying WV Route 4 over Elk River.	952,000 (fee)	95%
Eclipse Bottom Bridge Project; Study, Design, and Preparation of Contract Plans and related Documents; McDowell County, WV	WVDOH 1900 Kanawha Boulevard East, Building 5, Room 110, Charleston, WV 25305-0430	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 in the town of Bradshaw that will cross Dry Fork of Tug River and Provide access to WV 83.	$689,155 (fee)	40%

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)
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
Cresson Acid Mine Drainage Treatment Design: Provided treated AMD to the West Branch of the Susquehanna River in Cambria County, 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 Clearfield Creek Watershed.	PADEP, Bureau of Abandoned Mine Reclamation Rachel Carson State Office Building P.O. Box 8461 Harrisburg, PA 17105-8461	$1,633,368	2017	YES
City of Nitro Streambank Restoration: Rehabilitate and Stabilize 700 linear feet of existing riverbank along the Kanawha River to minimize future erosion; Kanawha County, West Virginia	WVDEP, Office of AML&R 601 57th Street, SE Charleston, WV 25304	$112,700 (fee)	2017	YES
White Avenue Landslide Remediation 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

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-AML&R Projects.**

20. The foregoing is a statement of facts.

Signature: Charles F. Straley Digitally signed by Charles F. Straley DN: E=c.straley@gaiconsultants.com, CN=Charles F. Straley Date: 2022.06.17 14:00:12-04'00' Title: Sr. Engineering Manager Date: June 17, 2022

Printed Name: Charles F. Straley, PE, PLS, MS

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	

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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	
Wolfpen (Carpenter) Portals	P			X	X	X					X									P
Little Whitestick Refuse	P			X	X	X					X					X	X			P
Crany Mine Dump	P		X			X					X					X	X			P
MacArthur Phase 1 Subsidence	P			X		X			X		X	X					X			P
MacArthur Phase 2 Subsidence	P			X		X			X		X	X					X			P
East Lynn II	P			X	X	X					X					X	X			P
Flipping Hollow Complex	P			X	X						X									P
Sundial (Hatfield) Refuse Re-Bid	P			X	X	X					X				X	X	X			P
Mill Creek Refuse Pile	P			X		X					X						X			P
Johns Branch Refuse Dam	P			X		X		X			X						X			P
Clay-Roane PSD Water Study	P			X								X								P
Burnsville PSD Water Study	P			X								X								P
Brandonville/Pisgah Water Study	P			X								X								P
Cuzzart/4-H Water Study	P			X								X								P
Hudson/Mt. Nebo Water Study	P			X								X								P
Jessop Highwall #10	P		X		X	X					X						X			P
Lando (Edwards) Drainage	P		X	X	X	X					X						X			P

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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
Taylorville (Cantrell) Drainage	P			X	X	X					X									P
Borderland (Matney) Portals	P			X	X	X					X									P
Peach Ridge Complex	P		X	X	X	X					X				X		X			P
Measle Fork Refuse	P		X			X					X				X	X	X			P
Georges Creek Portals	P			X	X	X					X						X			P
Putney Impoundment	P		X	X	X	X					X					X	X			P
Kopperston Refuse Emergency	P		X			X					X									P
Marmet (Wells Drive) Emergency	P			X	X	X					X						X			P
Marmet (Clark) Drainage	P			X	X	X					X						X			P
Pringle Run #2	P		X	X	X	X					X				X		X			P
Fairmont East Mine Drainage	P			X		X					X									P
Rachel Refuse	P		X		X	X					X				X					P
Iaeger Water Study	P			X								X								P
May Portals	P			X	X	X					X						X			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

OMB # 1029-0119
Expiration Date:
10/31/2024

ABANDONED MINE LANDS (AML) CONTRACTOR INFORMATION FORM

You must complete this form for your AML contracting officer to request an eligibility evaluation from the Office of Surface Mining Reclamation and Enforcement (OSMRE) to determine if you are eligible to receive an AML contract. This requirement can be found under OSMRE's regulations at 30 CFR 874.16. **NOTE:** This form must be signed and **dated within 30 days** of submission to be considered for a current bid.

Part A: General Information

Business Name: GAI Consultants, Inc.
Tax ID #: 25-1260999
Address: 385 East Waterfront Drive
City, State, & Zip: Homestead, Pennsylvania 15120
Phone Number: 412.476.2000
Email Address: k.cockley@gaiconsultants.com

Part B: Obtain an Organizational Family Tree (OFT) from the Applicant Violator System (AVS)

If you plan to certify the existing AVS information or submit updates under Part C, you must include an OFT. Instructions for downloading an OFT from the AVS can be found at:
https://www.osmre.gov/resources/forms/OMB1029-0119instructions.pdf
If you require assistance you may contact the AVS Office by phone at: 800-643-9748, or by email at: avshelp@osmre.gov.

Part C: Certifying and updating information in the AVS

Select one of the options, follow the instructions for the selected option, sign, and date below.

I, Kent Cockley, PE, MS , have express authority to certify that:
(Print Name)

[X] 1. Our business is listed in the AVS. The information is accurate, complete, and up to date. (If you select this option, you must attach an Entity OFT from the AVS to this form). Do not complete Part D.

[ ] 2. Our business is in the AVS. The information needs to be updated. (If you select this option, you must attach an Entity OFT from the AVS to this form). Complete Part D to provide the missing or corrected information.

[ ] 3. Our business is not listed in the AVS. The information needs to be added. Complete Part D to provide the information.

June 17, 2022
Date

Kent C. Cockley
Digitally signed by Kent C. Cockley
DN
E k.cockley@gaiconsultants.com,
CN Kent C. Cockley
Date 2022.06.17 17 11 10-04 00'
Signature

Vice President
Title

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All OFT's where the selected entity is listed as an entity or related entity

Entity Selected (140978) GAI Consultants Incorporated

Parent Entity	Relationship	Description	Related Entity	% Ownership	Begin Date	End Date
(140978) GAI Consultants Incorporated	Chief Executive Officer		[redacted] Gary M Dejidas		6/1/2003	
(140978) GAI Consultants Incorporated	Chairman of the Board		[redacted] Gary M Dejidas		6/1/2003	
(140978) GAI Consultants Incorporated	Executive Vice President		[redacted] Stephen E Gould		6/1/2019	
(140978) GAI Consultants Incorporated	Chief Operations Officer		[redacted] Stephen E Gould		1/1/2019	
(140978) GAI Consultants Incorporated	Vice President		[redacted] Robert J Houston		10/20/2006	
(140978) GAI Consultants Incorporated	Senior Vice President		[redacted] Kevin Leadbetter		2/1/2005	
(140978) GAI Consultants Incorporated	President		[redacted] Anthony F Morrocco		6/1/2017	
(140978) GAI Consultants Incorporated	Vice President		[redacted] Gregory T Nettuno		7/1/2002	
(140978) GAI Consultants Incorporated	Treasurer		[redacted] Karl S Palvisak		7/1/2004	
(140978) GAI Consultants Incorporated	Vice President		[redacted] Karl S Palvisak		7/1/2004	
(140978) GAI Consultants Incorporated	Corporate Officer		[redacted] Benjamin Resnick		8/14/2009	
(140978) GAI Consultants Incorporated	Secretary		[redacted] Raymond J Giarrusso			2/19/1998
(140978) GAI Consultants Incorporated	Shareholder		[redacted] Raymond J Giarrusso			2/19/1998
(140978) GAI Consultants Incorporated	Assistant Secretary		[redacted] John A Hribar		6/28/1993	1/1/1999
(140978) GAI Consultants Incorporated	Shareholder		[redacted] John A Hribar			1/1/1999
(140978) GAI Consultants Incorporated	Vice President		[redacted] John A Hribar		6/28/1993	1/1/1999
(140978) GAI Consultants Incorporated	Director		[redacted] Thomas D Donovan			11/9/1999
(140978) GAI Consultants Incorporated	Shareholder		[redacted] Thomas D Donovan			11/9/1999
(140978) GAI Consultants Incorporated	Shareholder		[redacted] James E Niece			9/30/2002
(140978) GAI Consultants Incorporated	Director		[redacted] Gary M Dejidas		1/2/2001	6/1/2003
(140978) GAI Consultants Incorporated	Chief Executive Officer		[redacted] Anthony M Digioia Jr			6/30/2003
(140978) GAI Consultants Incorporated	President	Interim	[redacted] Anthony M Digioia Jr		10/17/2002	6/30/2003
(140978) GAI Consultants Incorporated	Director		[redacted] Mark J Pavlik		1/2/2000	7/6/2003
(140978) GAI Consultants Incorporated	Vice President		[redacted] Herbert M Mandel		6/27/1993	7/7/2003
(140978) GAI Consultants Incorporated	Director		[redacted] Dennis W Okorn		1/2/2000	8/30/2003

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Parent Entity	Relationship	Description	Related Entity	% Ownership	Begin Date	End Date
(140978) GAI Consultants Incorporated	President		[redacted] Dennis W Okorn		1/1/2001	8/30/2003
(140978) GAI Consultants Incorporated	Director		[redacted] Lawrence R Dodds		1/1/1998	11/3/2003
(140978) GAI Consultants Incorporated	Senior Vice President		[redacted] Lawrence R Dodds		1/1/1998	11/3/2003
(140978) GAI Consultants Incorporated	Senior Vice President		[redacted] Henry A Salver		6/30/1991	12/12/2003
(140978) GAI Consultants Incorporated	Vice President		[redacted] Henry A Salver			12/12/2003
(140978) GAI Consultants Incorporated	Assistant Secretary		[redacted] Gerald J Pitzer		1/2/2000	12/31/2003
(140978) GAI Consultants Incorporated	Vice President		[redacted] Gerald J Pitzer		1/2/2000	12/31/2003
(140978) GAI Consultants Incorporated	Shareholder		[redacted] Henry A Salver			12/31/2003
(140978) GAI Consultants Incorporated	Vice President		[redacted] Paul L Spence		12/29/2000	4/16/2004
(140978) GAI Consultants Incorporated	Treasurer		[redacted] Mark J Pavlik		1/2/2000	6/30/2004
(140978) GAI Consultants Incorporated	Assistant Secretary		[redacted] Precha Yodnane		12/13/2000	6/30/2004
(140978) GAI Consultants Incorporated	Shareholder		[redacted] Anthony M Digioia Jr			12/31/2004
(140978) GAI Consultants Incorporated	Chairman of the Board		[redacted] Anthony M Digioia Jr		1/1/2001	12/31/2004
(140978) GAI Consultants Incorporated	Chairman of the Board		[redacted] Richard E Gray			3/11/2005
(140978) GAI Consultants Incorporated	Senior Vice President		[redacted] Richard E Gray		9/1/1985	3/11/2005
(140978) GAI Consultants Incorporated	Vice President		[redacted] Kirk F Mccutcheon		12/13/2000	4/15/2005
(140978) GAI Consultants Incorporated	Secretary		[redacted] Mark J Pavlik		7/1/2004	6/30/2005
(140978) GAI Consultants Incorporated	Vice President		[redacted] Michael A Fiorvante		12/30/2000	2/15/2006
(140978) GAI Consultants Incorporated	Vice President		[redacted] Donald F Kennington		12/28/2003	5/19/2006
(140978) GAI Consultants Incorporated	Vice President		[redacted] Lane R Smith		12/28/2003	5/19/2006
(140978) GAI Consultants Incorporated	Executive Vice President		[redacted] Lawrence R Dodds		11/3/2003	1/5/2008
(140978) GAI Consultants Incorporated	Senior Vice President		[redacted] J M Sievers		1/30/2004	1/5/2008
(140978) GAI Consultants Incorporated	Vice President		[redacted] Anthony F Morrocco		12/13/2000	5/31/2008
(140978) GAI Consultants Incorporated	Vice President		[redacted] John A Nawn		10/10/2005	10/10/2008
(140978) GAI Consultants Incorporated	Manager	Regional	[redacted] Anthony F Morrocco		6/1/2008	11/8/2008

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Entity Selected (140978) GAI Consultants Incorporated

Parent Entity	Relationship	Description	Related Entity	% Ownership	Begin Date	End Date
(140978) GAI Consultants Incorporated	Vice President		[redacted] Thomas E Obrien		12/13/2000	5/24/2009
(140978) GAI Consultants Incorporated	Assistant Secretary		[redacted] Mark J Paulik		4/24/2009	11/28/2009
(140978) GAI Consultants Incorporated	Vice President		[redacted] Mark J Pavlik		1/2/2000	11/28/2009
(140978) GAI Consultants Incorporated	Assistant Treasurer		[redacted] Mark J Pavlik		5/19/2006	11/28/2009
(140978) GAI Consultants Incorporated	Secretary		[redacted] Mark J Pavlik		1/2/2000	11/28/2009
(140978) GAI Consultants Incorporated	Vice President		[redacted] Lawrence R Dodds		1/6/2008	12/31/2009
(140978) GAI Consultants Incorporated	Corporate Officer	AVP	[redacted] C Elwood Penn		12/1/2007	5/25/2012
(140978) GAI Consultants Incorporated	Vice President		[redacted] Precha Yodnane		12/13/2000	6/1/2012
(140978) GAI Consultants Incorporated	Vice President		[redacted] F Barry Newman		5/19/2006	3/1/2013
(140978) GAI Consultants Incorporated	Corporate Officer	AVP	[redacted] W Thomas Chaney		12/2/2007	3/15/2013
(140978) GAI Consultants Incorporated	Corporate Officer	Assistant Vice President	[redacted] David A Mollish		1/3/2006	11/6/2013
(140978) GAI Consultants Incorporated	Vice President		[redacted] Gerald C Hartman		1/2/2007	1/31/2014
(140978) GAI Consultants Incorporated	Corporate Officer	Assistant Vice President	[redacted] Linda J Griffin		1/2/2005	7/3/2014
(140978) GAI Consultants Incorporated	Corporate Officer	Assistant Vice President	[redacted] Jay M Copenhaver		1/2/2005	9/26/2014
(140978) GAI Consultants Incorporated	Corporate Officer		[redacted] John W Edwards		12/31/2009	12/31/2015
(140978) GAI Consultants Incorporated	Secretary		[redacted] Diane B Landers		4/24/2009	1/1/2016
(140978) GAI Consultants Incorporated	Vice President		[redacted] Diane B Landers		12/31/2000	1/1/2016
(140978) GAI Consultants Incorporated	Vice President		[redacted] Thomas J Cicero		12/31/2009	7/20/2016
(140978) GAI Consultants Incorporated	Corporate Officer	Assistant Vice President	[redacted] Grace G Harrison		1/2/2005	3/3/2017
(140978) GAI Consultants Incorporated	Senior Vice President		[redacted] Anthony F Morrocco		6/1/2008	5/31/2017
(140978) GAI Consultants Incorporated	Assistant Secretary		[redacted] Anthony F Morrocco		1/1/2004	5/31/2017
(140978) GAI Consultants Incorporated	President		[redacted] Gary M Dejidas		7/1/2004	6/1/2017
(140978) GAI Consultants Incorporated	Vice President		[redacted] Richard A Cima		12/28/2003	1/2/2018
(140978) GAI Consultants Incorporated	Assistant Secretary		[redacted] J M Sievers		1/30/2004	5/13/2019
(140978) GAI Consultants Incorporated	Executive Vice President		[redacted] J M Sievers		1/6/2008	5/13/2019

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Entity Selected (140978) GAI Consultants Incorporated

Parent Entity	Relationship	Description	Related Entity	% Ownership	Begin Date	End Date
(140978) GAI Consultants Incorporated	Manager	Regional	[redacted] J M Sievers		1/6/2008	5/13/2019

107A Cambridge Place
Bridgeport, West Virginia 26330
304.808.6680 | gaiconsultants.com