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

Solicitation Response(SR) Dept: 0313 ID: ESR06222200000007994 Ver.: 1 Function: New Phase: Final

Modified by batch , 06/23/2022

Header 1

List View

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

Procurement Folder: 1047660
Procurement Type: Central Purchase Order
Vendor ID: 000000160928
Legal Name: CIVIL & ENVIRONMENTAL CONSULTANTS INC
Alias/DBA:
Total Bid: $0.00
Response Date: 06/22/2022
Response Time: 12:01
Responded By User ID: kevinhanks
First Name: Kevin
Last Name: Hanks
Email: khanks@cecinc.com
Phone: 304-933-3119

SO Doc Code: CEOI
SO Dept: 0313
SO Doc ID: DEP2200000017
Published Date: 5/31/22
Close Date: 6/23/22
Close Time: 13:30
Status: Closed
Solicitation Description: EOI - 2022 AML Contract 8 Project North
Total of Header Attachments: 1
Total of All Attachments: 1

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

State of West Virginia
Solicitation Response

Proc Folder:	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 ESR06222200000007994	1

VENDOR

000000160928
CIVIL & ENVIRONMENTAL CONSULTANTS INC

Solicitation Number: CEOI 0313 DEP2200000017

Total Bid: 0 **Response Date:** 2022-06-22 **Response Time:** 12:01:40

Comments:

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				

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: SOQ

Extended Description:

Professional Svcs - Brownton Refuse #2

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: 000000160928
Vendor Name : Civil & Environmental Consultants, Inc.
Address : 120 Genesis Boulevard
Street : Same as above
City : Bridgeport
State : West Virginia **Country :** USA **Zip :** 26330
Principal Contact : Dennis E. Miller
Vendor Contact Phone: 304-933-3119 **Extension:** N/A

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

Vendor Signature X **FEIN#** 25-1599565 **DATE** 06/21/2022

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

Civil & Environmental Consultants, Inc.

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

2022 AML CONTRACT 8 PROJECTS
CEOI-0313-DEP2200000017-1

CEC | BRIDGEPORT
Project 324-342
June 23, 2022

June 21, 2022

Mr. Joseph E. Hager III
Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, West Virginia 25305-0130

Dear Mr. Hager:

Subject: Proposal for Professional Engineering Services
Solicitation No. CEOI 0313 DEP2200000017
EOI – 2022 AML Contract 8 Project North
CEC Project: 324-342

Civil & Environmental Consultants, Inc. (CEC) is pleased to submit this Expression of Interest (EOI) to West Virginia Department of Environmental Protection (WVDEP) for the 2022 AML Contract 8 Project North project located in Barbour County, West Virginia. Our preparation of this proposal is based the Expression of Interest (EOI) dated May 31, 2022.

The civil engineering services representing **CEC's Bridgeport, West Virginia location** include surveying/geo-spatial, civil engineering, hydrological, hydrogeological, geotechnical engineering, transportation engineering, ecological, and environmental services. Also within CEC Bridgeport's footprint can be found landscape architecture and planning, and other specialty services. The management and delivery of these projects will be performed through our local Bridgeport, West Virginia office. Our office is built with experts in the region and currently has over 124 staff comprised of engineers, surveyors, geochemists, hydrologists, permitting specialists, construction technicians, and more. The employees comprising our project team have extensive and varied experience specializing in the aspects of engineering necessary for the completion of the project within Contract 8. We are confident that the enclosed materials highlight our team and our capabilities.

This document presents an overview of CEC's qualifications and experience. We have included a diversified group of successful past projects to display our depth of experience and ability to be responsive to your needs. CEC is a nationally ranked firm that is **96th out of the top 500 Design Firms** list published by Engineering News-Record (ENR) in 2021. CEC is a national firm with a footprint of **30 offices** across the country from which we can pull in a very wide range of experts in the variety of needs the WVDEP may have. We take pride in being integrated into our communities. The people you will be working and communicating with throughout the project are local experts that are based out of our Bridgeport, West Virginia office. The project will be fully managed through our office which is staffed with **124 employees including: engineers, surveyors, permitting experts, and scientists** that call West Virginia their home and work hard to improve our community and the state. We also maintain a working relationship with local materials testing and drilling firms to provide a broader scope of services and allow our clients to enjoy the benefits of one primary project consultant.

CEC is committed to providing the technical expertise and resources necessary for a multitude of tasks, our commitment goes beyond technical services as we are driven by quality deliverables that meet the scope, schedule, and budget. CEC understands the funding mechanism associated with AML projects and we will treat your resources like our own resources, upholding the highest level of fiscal responsibility. Additionally, CEC will be **RESPONSIVE**.

Thank you for providing CEC the opportunity to present our qualifications to the West Virginia Department of Environmental Protection. We look forward to the opportunity to communicate directly with the WVDEP and discuss our approach to this project in a shortlist interview. Should you have any questions, please do not hesitate to reach out to Daniel Martinez at (304) 203-8655 or Dennis Miller at (304) 629-9074.

Respectfully submitted,
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Daniel Martinez, P.E.
Project Manager

Dennis Miller, P.S.
Vice President

PROFESSIONAL ENGINEERING & CONSULTING SERVICES FOR WVDEP-2022 AML CONTRACT 8 PROJECT NORTH

CONTENTS

APPENDICES

1.0 Firm Overview

In 1989, four engineers and scientists came together with a singular vision: to be a people-first company, one that promotes a culture where clients and employees enjoy working together, and that is responsive to client needs with integrated services and high-quality work for projects both complex and routine.

More than 30 years later, Civil & Environmental Consultants, Inc. (CEC) has 1,000+ team members in offices nationwide. Headquartered in Pittsburgh, Pennsylvania, we are consistently ranked on Engineering News-Record's annual lists of the Top Design Firms and Top Environmental Firms in the nation.

A culture of accountability. We own it. At CEC, every member of our team has a personal stake in ensuring the success of our clients. Because their success is our success. As employee-owners of the firm, we are all personally accountable for building lasting relationships and delivering outstanding results. Because we don't just work at CEC. We own it.

Being easy to work with. We own it. At other firms, you may find one person you work well with. Here, our clients tell us they work well with all of us. It's because all of us are invested in your success. We're accessible, responsive, and operate with integrity.

Putting people first. We own it. At CEC, people come first. Always. Whether that's our clients, our employees, or our community. It's why we listen more and work harder to understand the unique needs of our clients. And it's why we prioritize the career development of every individual on our team. People are why we do this, and why we love what we do.

Teamwork. We own it. We are at our best when we work together. That means bringing together a diverse team of talented, passionate, multidisciplinary experts to work closely alongside clients to craft comprehensive solutions to complex problems. We believe that by working together, no problem is insurmountable.

Safety excellence. We own it. We believe all accidents are preventable and are committed to creating an accident- and incident-free workplace for employees and subcontractors through training, safe workplace practices, and processes for assessing project hazards. CEC strives for safety excellence throughout our entire organization and holds all individuals accountable for the safe performance of their work.

CEC is an expanding, multi-disciplined company that is home to:

- +Civil Engineers
- +Geotechnical Engineers
- +Transportation Engineers
- +Structural Engineers
- +Environmental Scientists
- +Environmental Engineers
- +Chemical Engineers
- +Geologists
- +Hydrogeologists
- +Hydrologists
- +Ecologists
- +Biologists
- +Wetland Scientists
- +Threatened & Endangered Species Experts
- +Agronomists/Soil Scientists
- +Emissions Testing Professionals
- +Meteorologists
- +Chemists
- +Archaeologists
- +Construction Managers and Inspectors
- +Environmental Technicians
- +Treatment Plant Operators
- +Land Surveyors
- +Landscape Architects
- +GIS Analysts and Programmers

1.1 Commitment to Safety

CEC is committed to conducting its business in a manner that sustains and protects the safety and health of its employees. CEC strives for continuous improvement in the effectiveness of its safety and health programs. We affirm that:

- Working safely is a key corporate value and a condition of employment.
- All workplace hazards can be safeguarded against by using proactive measures and actions.
- Occupational safety and health is part of every employee's total job performance.
- Each CEC employee is responsible, and is held accountable for establishing safe workplace conditions to prevent injuries and occupational illnesses.
- Training employees to work safely is essential and is the responsibility of CEC Managers and Supervisors.
- Creating and maintaining a safe workplace, combined with the prevention of personal injuries and accidents, is good business.
- An effective Safety Program is part of CEC's vision and mission.

CEC's Workplace Safety Program and Manual provides general physical hazard assessments for tasks commonly performed by CEC employees. The program requires a hazard assessment and preparation of a project safety plan for all field operations. The plans are continuously updated through the use of Job Safety Assessments and on-site safety meetings for CEC personnel.

1.2 Attention to Quality

CEC performs our professional services under our corporate Quality Assurance Plan (QAP). This QAP was developed to verify the engineering, design, plans and other deliverables prepared by the project team and the various disciplines are supported by comprehensive studies and sound engineering judgment, in compliance with established policies, guidelines and standards, and contain appropriate design flexibility and cost saving measures. This QAP entails a comprehensive listing of CEC quality policies and standard operating procedures that are available on CEC's internal network. It is consistently reviewed and updated by a multi-office team of experienced professionals to ensure "Best Quality Control Practices" are uniformly applied. In support of this QAP, CEC is committed to the application of established design policies, guidelines, and processes developed and published by review and resource agencies. From a quality standpoint, technical personnel review the technical quality, accuracy and completeness of all designs, analyses, drawings, estimates, and report text. Peer-level personnel are responsible for the performance of an independent check of all calculations and project deliverables prior to each project milestone submission.

As part of the QAP, reviews will be performed for the appropriate element throughout the design/construction process. These reviews will be completed prior to submitting reports, plans, construction documentation, or other deliverables. These reviews will verify the adequacy of the information presented and compliance with established guidance documents. The QAP also documents procedures for work procedure and equipment use, employee and project safety, project management and records and communications. The goal and objective of the QA/QC Policy is to provide a safe and consistent delivery of quality services to the WVDEP.

1.3 Controlling Costs and Maintaining Schedules

CEC has written quality policies that are provided to all employees; these policies define critical work quality and internal control procedures. Employees are instructed and required to record hours worked daily in the Deltek system and each employee-prepared time sheet is reviewed and approved by a system defined supervisor. Project management personnel have online access to project budgets, project cost and hours, billing and accounts receivable information. In addition to online access, each month the Accounting Department distributes to the project manager and principal-in-charge copies of a summary project status report showing budget and actual project information.

Project cost controls are provided by our fully integrated accounting system. The management information system is used to compile and control costs by project and by task, independent of personnel used, or their office location. Costs specific to the project are consolidated by accounting and verified by the CEC project manager for accuracy. Further accounting control is provided for monthly reviews of all projects. The costs incurred are compared to progress on the projects to confirm that the expenditures of budgeted funds correlate to the overall progress on the projects.

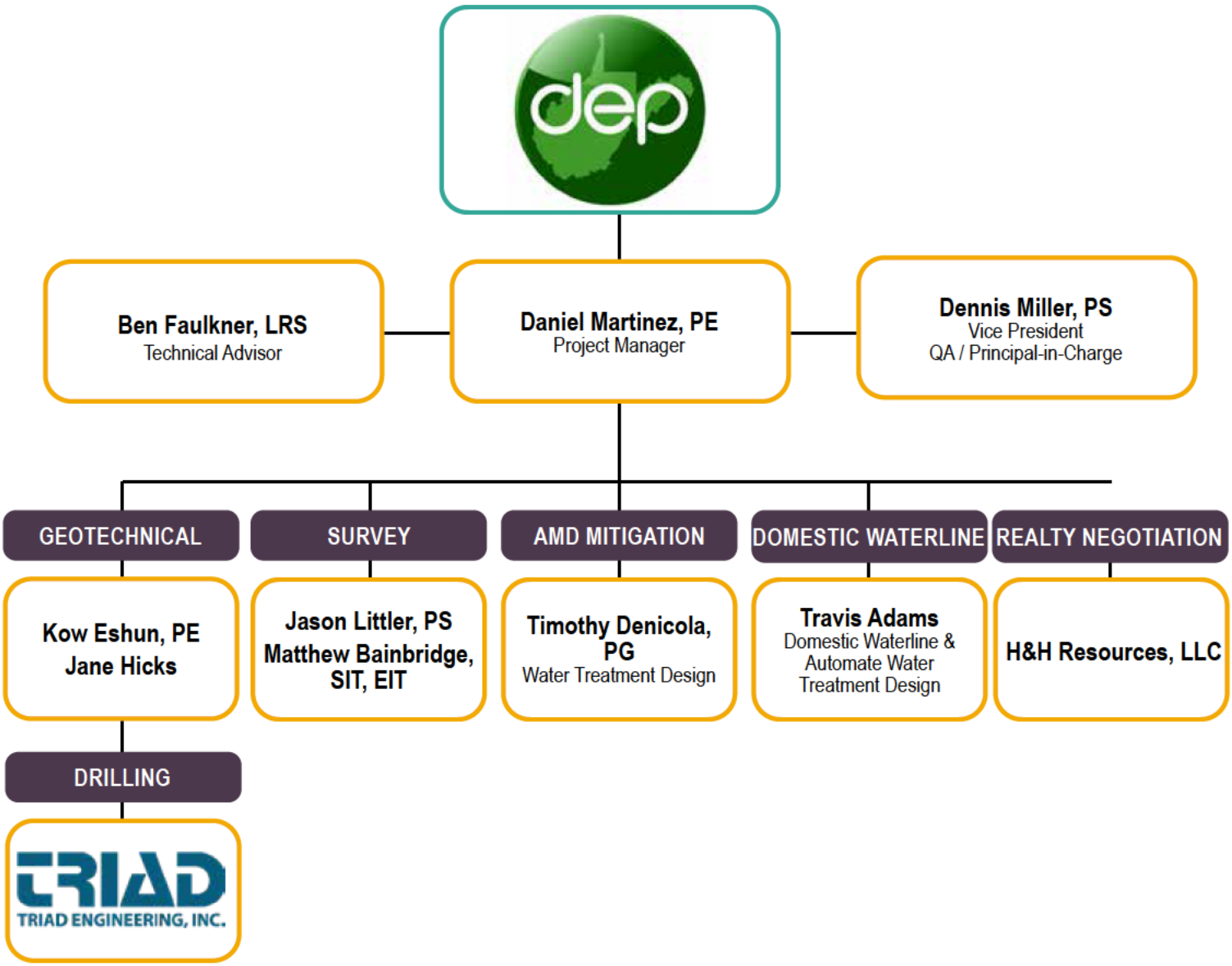
1.4 Staff Availability

CEC regularly reviews workload by office and by Practice through a series of regularly scheduled meetings/reviews. Each office holds a weekly meeting to review new and upcoming proposal activity and reports shared opportunities. Additional practice meetings/ reviews are held to review workload, schedule manpower and anticipate schedule changes. CEC regularly monitors our workload and backlog against staff availability and adds personnel, as necessary, to meet client and project requirements and has the ability to augment staff from our 30 office locations and over 1,200 personnel.

2.0 Key Personnel & Sub-consultants

The following key personnel will assist in the 2022 AML Contract 8 project. CEC's project team is comprised of individuals that have the technical knowledge, professional experience and project understanding to support the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands and Reclamation (WVDEP-DLR-AML) with geotechnical investigation and design of landslides, investigation/reclamation/design of dangerous impoundments and highwalls, acid mine drainage (AMD) investigation and mitigation, portal sealing and hydraulic engineering. The project team identified to work with the WVDEP has extensive experience in full service design solutions for performing site assessments and design remediation and mitigation services throughout West Virginia. In addition, our team has extensive experience in ecosystem restoration, and Clean Water Act Permitting and NEPA. Each of the anticipated team members presented in the organizational chart that follows is based out of CEC's Bridgeport, West Virginia office and will be crucial in the successful execution of these projects.

In addition to the key personnel noted in the organizational chart below, CEC's Bridgeport, WV office has more than 100 technical and managerial personnel who can provide a wide range of services, including but not limited to Construction Field Services, Environmental Engineering, Permitting and Ecological Services.



Mr. Dennis Miller, P.S. will be overseeing and implementing CEC's stringent quality control policies and to facilitate the delivery of a high quality product to the state. He will also use his deep rooted background in AML reclamation to provide technical guidance and supervision. Mr. Miller has more than 28 years of experience in AML restoration, Acid Mine Drainage, geodetic control surveys, high accuracy monitoring, and more. He has worked on both private and public sectors and has noteworthy experience in the policies and procedures within the WVDEP, WVDOT, FHWA, and FAA. His familiarity with the project objectives along with his dedication to CEC's quality policies will be an asset in delivering a high quality product.

Mr. Daniel Martinez, P.E. will serve as the project manager and designer coordinating with CEC's internal resources to meet the schedules of the projects. Mr. Martinez has more than eight years of diverse experience in land development, ecosystem restoration design, transportation engineering, and hydraulics. He has managed design teams on several AML-related projects in West Virginia and Maryland. His diverse background has allowed Daniel to provide innovative design solutions that blend unique, environmentally sound mitigation techniques with conventional civil engineering design practices. His proven track record of on-time project delivery and in-depth design approaches will make him an asset on this project. Daniel is currently a project manager in the Bridgeport, WV office.

Mr. Timothy Denicola, P.G., C.F.M. will conduct water quality and soil chemical sampling. Mr. Denicola has a diverse background including expertise in geochemistry, geology, and hydrology. His environmental experience includes mine water remediation, stream restoration, and regulatory compliance. Specific capabilities include watershed based planning, site assessments and recommendations, design of passive and semi-active treatment systems, design of stream restoration corridors, hydrologic and geotechnical analysis, construction quality assurance, environmental compliance audits, and development of various spill control plans.

Mr. Kow Eshun, P.E. will provide geotechnical project oversight and review as well as construction management. Kow has more than ten years of diverse experience in geotechnical engineering, transportation and Construction Quality Assurance. Kow has worked on and managed a wide range of subsurface investigations to provide recommendations for landslide remediation, foundations, slope stability analyses, ground improvement techniques, mine subsidence, and earthwork. Additionally, Kow has managed a wide range of projects in the transportation, health, natural gas, manufacturing, telecom and utilities industries including roadway projects, well pads, compressor stations, building projects, substation construction and expansion. Kow currently serves as CEC;s geotechnical practice lead in the Bridgeport office, runs our slip mitigation program, and manages our Construction Quality Assurance field personnel.

Mr. Jason Littler, P.S. will provide survey project oversight. Mr. Littler has over 24 years of experience. His responsibilities have included positions as Roadway Designer and Survey Project Manager. He has performed drainage computations, construction layout, earthwork volumes, topographical surveys, aerial mapping control surveys, boundary surveys, WVDOH right-of-way plan development, courthouse research, deed work maps, survey plats, survey descriptions, earthwork volume computations, WVDOH waste permits, plan preparation, subdivision plats, cell tower surveys, oil and gas landowner exhibits, pipeline as-builts, pipeline alignment sheets, pipeline routing, fine grade computations, and survey field crew management and oversight. Jason is a senior project manager in the Bridgeport, WV office.

Mr. Travis Adams has 23 years of experience in the consulting engineering industry servicing municipal, private, commercial, and industrial clients. His project practice focus includes the detailed engineering design of acid mine drainage treatment systems, reclamation of disturbed lands, water and wastewater treatment plants, water distribution systems, and wastewater collection systems. He leads a team of professionals to evaluate, design, permit, bid, and construct projects with challenging construction obstacles and complex technical and regulatory requirements.

Mr. Ben Faulkner, L.R.S. will act as a Technical Advisor in the development of the investigation, designs, plans and specifications. Mr. Faulkner is experienced in all environmental aspects of mining with over 40 years of experience in environmental matters. He has enjoyed diverse perspectives as environmental permit manager, regulator, preparer, researcher, and consultant. His focus has been on environmental compliance and characterization of mined properties, with 5 years of mine law enforcement and over 35 years as industry manager, academic research associate, and private consultant to the coal, hard rock, and aggregate mining industries. His experience spans working in state mining programs in IL, OH, KY, PA, SC, TN, TX, VA and WV and CERCLA projects in GA, TN and OH. International projects include USVI, Canada, and Wales. He is recognized as a Federal Court expert witness in characterization and chemical/passive treatment of mine drainage as well as land reclamation and aquatic restoration/evaluation of dramatically disturbed lands. He is the only person to serve on both editorial committees of the Office of Surface Mining's Acid Drainage Technical Initiative for coal and metal mining sectors. He is also qualified through ASTM as an Environmental Professional for the purpose of conducting Environmental Site Assessments, Environmental Compliance Audits, and Due Diligence Inquiries. Recent work with USDoE grant took him to over 140 mine sites in 5 states for characterization of drainage treatment and precipitates potential for Rare Earth Elements recovery. Mr. Faulkner joined CEC in 2016 and works out of the Bridgeport, WV office.

2.1 Sub Consultants

Triad Engineering Inc. will assist CEC with their geotechnical investigation by performing subsurface drilling. Since the 1990s, Triad has performed geotechnical drilling and/or geotechnical engineering services on 100s of West Virginia DEP AML&R projects. Triad has maintained open-ended drilling contracts from 2014 to 2017 and 2019 to present. Drilling services include the following:

- Soil Drilling and Sampling using hollow stem augers and split spoon sampling
- Rock coring using NQ coring tools to collect core samples of the underlying bedrock
- Installation of piezometers into mine voids to allow for water level determination and water sampling
- Installation of slope inclinometers and other instrumentation to monitor slope movements.

NAICS CODE: 541330 | SERVICE(S): ENGINEERING SERVICES | CERTIFICATION: Current SBA Small Business Status for 541330

CEC will also utilize **H&H Resources LLC** to assist in performing the geotechnical investigation by negotiating right-of-way acquisition from multiple landowners. Since inception in 2015, H&H Resources LLC has negotiated for and been involved in over 500 miles of pipeline and 25 miles of electric transmission line right of way acquisition. H&H Resources LLC would utilize the following services for CEC to complete projects in a timely manner:

- Strong experience managing midstream right-of-way development and acquisition and procuring compressor sites and land purchases.
- Adept at coordinating and streamlining contributions from site development, mapping and GIS, title, document specialists, field agents, right of way technicians, and professionals charged with handling post acquisition matters from project initiation through construction and reclamation.
- Dynamic negotiator who utilizes outstanding negotiation skills with and exceptionally high rate of successful outcomes.

CERTIFICATION: IRWA (International Right of Way Association)

Resumes for the above-listed key personnel, including certifications, registrations, and project experience have been included in **Attachment C.**

3.0 Project Overview

CEC has reviewed the WVDEP-DLR-AML's request for qualifications relating to the project released under the 2022 AML Contract 8 Project North Expression of Interest. The project is as follows and located in Barbour County, West Virginia:

- Brownton Refuse #2

CEC's professional services will consist of providing the WVDEP-DLR-AML with site reconnaissance, Landowner negotiation and easement procurement, site access plans, a geotechnical subsurface investigation, MS4 compliance (if applicable), water quality tests, preparation of designs, plans, and specifications relating to landslide stabilization, site access, impoundment and highwall reclamation, portal sealing, erosion and sediment controls, and clearing and grubbing/site revegetation to be performed within the limits of disturbance. Permitting applications will also be submitted as necessary for the project's successful completion. The following sections of this letter include our understanding of the project requirements.

3.1 Understanding of Project Requirements

On-site Reconnaissance

CEC will conduct an on-site reconnaissance to characterize the various features requiring resolution. The reconnaissance will include viewing areas where abandoned mine entries may be currently discharging AMD onto the slope. The surrounding terrain around landslides, subsidence areas, and portal openings along with documentation of general site conditions will be characterized. In addition, the site reconnaissance will include a review of existing and previous AML mine seals and conveyance systems, as well as identifying possible site access for equipment. CEC will conduct a desktop review of available landslide mapping and soil maps to identify additional high risk areas near the area prior to the site visit. The findings of this site visit will be incorporated into the layout and design of the remediation of the landslide as well as restoration and management practices.

Topographic and Planimetric Survey.

CEC will perform a topographic and planimetric survey of the project sites. This survey will provide the existing contour mapping of the site at the time of the Small Unmanned Aerial System (sUAS) Flight. This sUAS flight will be supplemented with more traditional survey methods to provide a detailed base map suitable for developing construction drawings.

Ecological Delineation

Wetlands will be identified and delineated in accordance with the routine determination methodology described in the 1987 USACE Wetlands Delineation Manual (USACE Manual), supplemented by the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (USACE Supplement), National Wetland Plant List, and USDA 1991 Hydric Soils of the United States. Streams and other waters, such as ponds, seeps, springs, etc., will be identified by the presence of an ordinary high water mark as defined in 33 CFR Part 328.3(e) and USACE Regulatory Guidance Letter No. 05-05. Streams will be classified as perennial, intermittent, and ephemeral as defined in the 2017 Nationwide Permits. Floodplains will be identified and delineated from Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and other available state or local floodplain mapping information.

Wetland and waters determination data will be recorded on field data forms and each aquatic resource will be photographed. CEC will mark the boundaries of wetlands and other waters with consecutively numbered surveyor's ribbon and locate the boundaries using aerial/LiDAR topographic mapping and Trimble® Geo-XT or Geo-XH Global Positioning System (GPS) equipment. The mapping and GPS boundary locations will be used to prepare a wetland and waters delineation map.

After completing the identification, field delineation, and classification of wetlands, buffers, other waters, and floodplains within the study area, CEC will prepare a wetland and stream delineation report. The report will include a description of the classification and delineation methods, wetland and waters determination field data forms and photographs, tabulation of the type and quantities of each aquatic resource, and a wetland, waters, and floodplain delineation map showing the location, extent, and classification of each aquatic resource within the Site.

Geotechnical and Water Chemistry Investigation

A subsurface drilling plan is anticipated to be generated and implemented on all projects within Contract 8. CEC will coordinate with a drilling subcontractor to perform exploratory borings at appropriate locations suitable to quantify and qualify onsite materials needed

for backfilling and grading disturbed areas as well as characterizing mine pool elevations. Test bores will also be drilled to assess for physical and chemical properties of unreclaimed refuse and spoil as applicable. CEC will have the boring material analyzed by a state approved soils lab to determine acid base accounting and suitability for reuse as backfill material.

Water quality samples may be collected from surface waters and field identified groundwater seeps in pertinent features to be reclaimed to quantify contaminant loads in the shallow aquifer. Water quality parameters may include field temperature, pH, specific conductivity, dissolved oxygen, and oxidation-reduction potential. Laboratory parameters may include acidity, alkalinity, total iron aluminum and manganese, dissolved iron aluminum and manganese, calcium, magnesium, and sulfate. Discharge measurements will be collected from GIS and field identified surface waters using a SonTek FlowTracker 2 Acoustic Doppler Velocity Meter. Drainage conveyances to be installed or repaired in the mitigation of dangerous impoundments or chronic AMD discharges in particular may reference the results of the water chemistry testing to facilitate a suitable selection of channel protection or lining material.

The results of the geotechnical and water chemistry investigation will be incorporated into a Water Chemistry and Geotechnical Investigation Report. CEC will submit a report to the WVDEP-DLR-AML summarizing its findings and conclusions. These findings will be incorporated in the design of the proposed drainage and mitigation features.

Clearing and Grubbing

CEC will design and develop a Clearing and Grubbing plan to remove all woody vegetation and accumulated trash to prepare the site for construction. Delineated wetlands and waterways will be protected by biodegradable filter sock. Several of the projects are in close proximity to residential structures. Clearing and grubbing and earthwork operations upslope from the residential structure will consider the use of super silt fence between the work and the structures to be protected.

Access Roads

CEC will design all-weather style construction access roads to facilitate access to the project sites. Where construction is anticipated to impact public roadways, a Maintenance of Traffic (MOT) plan will be developed using the standards from the West Virginia Department of Transportation, Division of Highways, Manual on Temporary Traffic Control for Streets and Roadways to enable construction operations while limiting impact to public travel ways and a provide safe interaction between public traffic and construction operations.

Landslide Stabilization

CEC will incorporate the data collected and conclusions established in the geotechnical investigation to develop stabilization design plans and specifications for the landslides on the applicable projects. CEC anticipates earthwork operations can be performed in a manner that will reuse the landslide material to restore natural grade on the stabilization locations. Diversion ditches will be evaluated for use upslope of the stabilization area to intercept and divert upland overland flows and reduce the presence of potentially erosive shallow concentrated flows from freely running over top of the proposed grades. Intermediate subsurface drains installed in conjunction with foundation keys and intermediate benching may be utilized to further reduce the saturation of the stabilized material from groundwater seeps and springs that may be present between the existing ground and stabilized soil. Temporary and permanent stabilization in the form of erosion and sediment controls and planting will be designed and implemented as necessary.

Portal Sealing and Regrading

Several projects have numerous portals that are noted as being open, partially collapsed, or completely collapsed with active AMD seepage. These are to be sealed and/or regraded. CEC will evaluate the condition of the portals to identify an ideal sealing strategy for each. Wet mine seals, modified mine seals, or bat gate seals will be designed as appropriate to properly close all open entryways and provide hydraulic relief to collapsed portals.

A mine pool dewatering plan will be designed and incorporated as necessary that will treat existing AMD water prior to release into project area streams. The results from the water chemistry investigation will form the basis of this plan.
Earthwork operations will be designed to provide positive drainage throughout the project areas and utilize excavated materials to backfill the mine seal installations and subsidence features, thereby eliminating falling hazards, mine entry points, and reestablishing stream flows in channels and/or existing or proposed drainage facilities.

Highwall Reclamation

CEC will complete the layout of the reclamation of the disturbed areas and establish the proposed final elevations and grades for the site. CEC will finalize the site plan for the proposed development in accordance with the WVDEP-DLR-AML requirements. Onsite soil refuse that is to be disposed of will be placed CEC will prepare the final site grading plan, to include two-foot contours to represent

proposed site grading and spot elevations within the proposed disturbance.

CEC will provide a project site with balanced earthwork and will prepare earthwork volumes accounting for topsoil stripping and shrink/swell adjustments. Soil blending will be investigated and incorporated into the design to reuse as much onsite material if that is found to be an acceptable solution. Onsite mine refuse will be placed against the toe of the highwall and buried beneath the subsequent compacted fill layers during the highwall reclamation process to form a cap around the entirety of the refuse. Earthwork operations will be designed to provide positive drainage throughout the project areas and utilize excavated materials to bring up the gradient in front of the highwalls to provide a gradual slope along the project limits, reducing falling hazards.

Mine Spoil Refuse and Gob Pile Reclamation

CEC will evaluate the site to identify suitable locations to spread and dispose of mine spoil refuse and gob material. Topsoil will be stockpiled to set aside valuable organic material for later use. In order to provide a soil cap over the refuse of suitable thickness, onsite borrow areas may need to be used. Subsurface investigation will be completed as needed to identify suitable borrow locations within the project area. The borrow material will be reused as a cap over the mine spoil refuse and will be topped with the stockpiled topsoil to better facilitate revegetation. The final grade will be blended into the existing topography and graded to drain in a manner that reconnects stream flows and moves overland and subsurface flows offsite.

Repair or Replacement of Existing Drainage Systems

CEC understands that existing impoundments, faulty drainage systems, or not drainage systems may be the cause of the drainage problems. Furthermore, an existing AML mine seal and conveyance system may be failing. As such, CEC will review the existing drainage systems and features onsite system and propose either maintenance, repair, replacement, or new systems be installed if conditions warrant.

Hydraulic and Hydrological Assessment, Stormwater Management, and Conveyance Structures

The purpose of this task is to prepare a stormwater management plan for collection, conveyance, and detention measures as required for post development conditions in accordance with the requirements of WVDEP-DLR-AML.

- CEC will perform a preliminary pre- and post-development hydrologic and hydraulic analysis to determine stormwater management requirements for post-development conditions as required.
- CEC will perform detailed engineering analysis and design for any stormwater collection, conveyance, and detention systems required for the site. CEC will prepare design drawings and specifications for the stormwater drainage system design to include plan view layout, cross sections (as needed) and construction details in accordance with WVDEP-DLR-AML standards.

CEC will design open channel flow limestone ditches to capture surface runoff and ground water and direct that flow around or through the Project site. Care will be taken to divert uphill runoff around proposed grades. All designed ditches will have engineered linings to provide stability and resist tractive stream forces. Limestone may be specified for all riprap lined ditches to add alkalinity to captured waters. Design pipes to transport captured ditch flows where necessary. Horizontal borings will be considered as a means of relieving hydraulic pressure conveying flows through to receiving ditches. CEC will design subsurface drains (where necessary) to safely convey ground water into constructed ditches or directly into receiving streams.

CEC is experienced in hydraulic and hydrologic analysis, dynamic two (2) dimensional flow modelling, culvert and bridge design, and preparation of hydraulic reports necessary to support the findings. Natural Channel Design (NCD) techniques will be considered where appropriate as an alternative to conveyance ditches. NCD will also be considered where needed to help restore natural order to clogged and impacted streams.

Where proposed open channel ditches traverse through subsidence zones or other areas where stream water loss is evident, CEC will propose the use of grouted riprap or geosynthetic clay liners to span these locations and reduce flow loss to deep underlying mines.

Construction Quality Assurance and Quality Control (QA/QC)

CEC will provide a full-time construction inspector to observe and document the progress of the construction. The CEC construction inspector will inspect the installation of the drainage conveyances, the reclamation of exposed coal refuse and mine spoil, reclamation of highwalls, and more activities relating to the contract. Conditions encountered will be communicated with the DEP AML and the CEC project manager daily. Daily field reports and construction activity logs summarizing the construction activities and containing photographical documentation will be completed, reviewed, and recorded daily. The CEC construction inspector will have the authority to stop-work for safety reasons and if work is deviating from the Engineer-approved design and plans. CEC experts local to Bridgeport

will be available with engineering support and services throughout construction.

Realty Negotiation and Acquisition

CEC will subcontract H&H Resources, LLC (H&H Resources) to perform realty negation and acquisition. H&H Resources has strong experience in managing right of way acquisition projects with recent clients such as Antero Midstream, Competitive Power Ventures and First Energy Corporation. With this relevant experience, H&H Resources will be able to Match the needs of the client with the roles of the mapping department, title determination, documents specialists, managers, and other professionals handling projects in the post-acquisition phase of CEC. By facilitating the lines of communication and reporting between CEC and the WVDEP, progression of projects will be efficient and as seamless as possible. H&H Resources has an established organizational process for developing and maintaining records, reports and other mechanisms for tracking the progress toward meeting the client's objectives and goals. CEC, the WVDEP, and H&H Resources will work together towards meeting with landowners, evaluating and approving negotiations, developing contracts, and more.

Revegetation of Disturbed Areas

CEC will develop temporary and permanent revegetation plans for disturbed areas. Revegetation plans will utilize either mining reclamation standard revegetation specifications or a more diverse native non-invasive planting scenario including grass seed mixes, woody and herbaceous shrubs, and hardwood trees.

Permitting Submittals

CEC experts local to Bridgeport, will prepare and submit the following necessary permits as applicable and as determined at the pre-design meeting:

- West Virginia Department of Environmental Protection Division of Water and Waste Management (WVDEP-DWWM) National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit
- WVDEP-DWWM Section 401 Water Quality Certification permit
- United States Army Corps of Engineers (USACE) Regional General Permit for Abandoned Mine Lands (Section 404)
- West Virginia Department of Highways (WVDOH) MM-109 Encroachment Permit

Additional permits may become necessary as investigation into each of the project locations progresses. Those permits may include, but not be limited to:

- Stream Activity Application
- Fish Spawning Waiver
- Floodplain Permit
- Various Agency Technical Assistance Letters

CEC will notify the WVDEP-DLR-AML in the event that any additional permits become necessary and collaborate towards a solution.

National Environmental Policy Act (NEPA)

CEC would commence the ecological services component of the project by performing desktop reviews of the following resources, at a minimum:

- Available aerial imagery and topographic maps to assess areas that may have a higher probability of containing streams and/or wetlands
- United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation website to generate a list of federally protected species that may be within range of the project
- State Historic Preservation Office's (SHPO) interactive website to review known cemetery locations, archaeological sites, or architectural resources that may be present onsite or within the viewshed of the project
- Review of local, state, or national parks including refuge lands and wildlife management areas
- West Virginia's National Wild and Scenic Rivers Systems website
- Federal Emergency Management Agency (FEMA) mapped flood hazard areas

- West Virginia Department of Environmental Protection's (WVDEP) Technical Applications and Geographic Information System (TAGIS) for public water supplies, aquifers, or principal drinking water areas; and,
- United States Department of Agriculture's (USDA) web soil survey to assess mapped soils and prime farmlands

These desktop reviews would assist CEC in determining required field surveys and to aid in a targeted field approach. CEC would perform a wetland and stream delineation based on the footprint of the preliminary design to assess the project areas for onsite aquatic resources. Based on the results of the aforementioned desktop reviews, CEC could also conduct bat habitat and hibernacula surveys and identification of noxious weeds concurrent with the delineations, thus reducing mobilizations. During the onsite reconnaissance, CEC would also collect information regarding existing site conditions and land-use. The information collected during the desktop analysis and field review would later be utilized as part of the early consultation process with resource agencies during scoping.

Once the results of the field survey(s) have been completed, the data would be post-processed and reviewed in accordance with CEC's Quality Control Manual. Following the review, the data would be supplied to engineering for incorporation into a final plan set, that would avoid and/or minimize impacts to onsite identified resources, to the extent feasible.

Once the final design is complete, CEC would analyze the project for its potential to impact identified resources and would solicit comments from state and federal resource agencies. CEC would prepare, at a minimum, letter requests to the following agencies to solicit comments on the proposed action:

- USFWS and West Virginia Division of Natural Resources for a review of state and federal protected species.
- SHPO for a cultural resources review.
- County Floodplain Manager to ensure the project is compliant with Executive Order 11988.

CEC would review the comment letters received from the various agencies to determine if the proposed action would be within the constraints of a Categorical Exclusion (CE), or if additional level of reviews [Environmental Assessment (EA) or Environmental Impact Statement (EIS)] would be required. If it is determined that the project would not have significant effects on the quality of the human environment (individually or cumulatively), CEC would complete the Categorical Exclusion Determination Form and provide the necessary supporting documents (figures) and attachments (agency consultation letters and responses) to support the determination. If the proposed action would have the potential for measureable impacts on the environment, CEC would prepare an EA or EIS consistent with the structural layout provided in the OSMRE's 2019 *Handbook on Procedures for Implementing the National Environmental Policy Act*. The format would generally include:

- Title page.
- Table of contents.
- Purpose and Need for the Proposal: CEC would include a succinct description of the proposed project, a brief statement of what the proposal is and why the action is being considered, and the need for the action. The purpose and need statement would be carefully crafted as to control the scope of the analysis yet without narrowing it so much as to preclude reasonable alternatives.
- Proposed Action and Appropriate Alternatives: CEC would include a description of the No-Action Alternative, Proposed Action, Reasonable Alternatives, and any Alternatives Considered but Eliminated.
- Affected Environment: This section is not necessarily required but a discussion can be useful in analyzing the context and intensity of the impacts.
- Environmental Impacts: This section of the analysis would include a discussion of short- and long-term impacts, direct and indirect impacts, and cumulative impacts. This chapter would also include discussions on the resources referenced in the aforementioned desktop review section.
- Consultation and Coordination. This section would contain a list of parties that were consulted, including a record of compliance with other applicable statutes and regulations including the clean water act.
- References Cited.

The level of public involvement would vary with the differing types of NEPA compliance. Based on the information contained in the RFP, CEC does not anticipate the need for development of an EIS. Though formal scoping does not necessarily apply to CEs or EAs,

CEC would work with OSMRE to provide necessary information to support a public notice regarding the preparation of environmental documents or that an EA is being prepared. In conjunction with OSMRE, CEC would identify agencies/stakeholders known to be interested or affected by the proposed action and work to develop schedules for soliciting comments. If it is determined the proposed action would have significant impacts requiring an EIS, CEC could also work with OSMRE to develop an appropriate public involvement plan and strategies.

Infrastructure Investment Jobs Act (IIJA) Compliance

CEC understands that the NEPA documents would need to maintain compliance with the Bipartisan Infrastructure Law (BIL), also known at the Infrastructure Investment and Jobs Act (IIJA). As such, we have familiarized ourselves with the *Draft Guidance on the Bipartisan Infrastructure Law Abandoned Mine Land Grant Implementation* document as well as attended the June 9, 2022 OSMRE's Virtual Public Briefing on the BIL. CEC would ensure that the NEPA documents have a focus on projects positively affecting disadvantaged communities, and proposed actions promoting the revitalization of coal communities, consistent with Executive Order 14008 (Justice40) and the BIL.

CEC further understands that one of the priorities of the BIL AML grants are to demonstrate a reduction in methane gas emissions. For those projects that are suspected of methane liberation, CEC can work with OSMRE utilizing a combination of our optical gas imaging (OGI) and/or portable gas-detectors to measure the type or amount of gas potentially being released from a site. CEC would utilize the information obtained for discussion in the environmental impacts section of the EA or EIS.

CEC has experience with methane gas detection and monitoring techniques and has staff who are certified thermographers. An OGI sensor can be used to detect the presence of hydrocarbon emissions in a targeted area. Once the source of the emission is identified, a portable gas-detector can be used to reliably quantify the rate of methane emission. CEC has utilized these techniques on pipeline projects to identify leakage along long corridors much more efficiently and safely than hands-on inspection and detection.

4.0 References

We encourage WVDEP to contact the following client contacts to discuss our previous performance on similar projects. CEC has performed numerous landslide remediation projects with the following clients.

Mr. Lee Kaplan, PG, MPH
Posillico, Inc.
Project Executive
I750 New Highway
Farmingdale, NY 11735
Phone:917-868-5472
Email: lkaplan@posillicoinc.com

Mr. Tim Miller
Maryland Department of the Environment
Regulatory & Compliance Engineer Senior - Abandoned Mine Land Division
160 South Water Street
Frostburg, MD 21532
Phone: 304-689-1465
Email: tim.miller@maryland.gov

Mr. Ben Sampson
Lyons Run Watershed Association
President
Phone: 412-347-1060
Email: bsampson@sampsonmorrisgroup.com

Appendix A

AML Consultant Qualification Questionnaire

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE

Attachment "B"

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
2022 AML Contract 8 Projects	June 22, 2022	25-1599565

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
Civil & Environmental Consultants, Inc.	700 Cherrington Parkway Moon Township, PA 15108	N/A

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE Disadvantaged Business Enterprise)
412.429.2324	1989	☐ Individual ☒ Corporation ☐ Partnership ☐ Joint-Venture	☐ Yes ☒ No

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

Bridgeport Office | 120 Genesis Boulevard, Bridgeport, WV 26330 | 304.933.3119 | Dennis Miller, PS | 13

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER – OTHER PRINCIPALS
Dustin Kuhlman | PE | CEO Dan Szwed | PE | COO Dennis Miller | PS | Vice President & Office Lead	Kow Eshun | Principal | Geotech | 304-848-7142

9. PERSONNEL BY DISCIPLINE

119	ADMINISTRATIVE	94	ECOLOGISTS	9	LANDSCAPE ARCHITECTS	12	STRUCTURAL ENGINEERS
	ARCHITECTS		ECONOMISTS	15	MECHANICAL ENGINEERS	174	SURVEYORS
11	BIOLOGIST	11	ELECTRICAL ENGINEERS		MINING ENGINEERS	6	TRAFFIC ENGINEERS
63	CADD OPERATORS	172	ENVIRONMENTALISTS	10	PHOTOGRAMMETRISTS	177	OTHER
7	CHEMICAL ENGINEERS		ESTIMATORS		PLANNERS: URBAN/REGIONAL		
310	CIVIL ENGINEERS	29	GEOLOGISTS	1	SANITARY ENGINEERS		
15	CONSTRUCTION INSPECTORS		HISTORIANS	4	SOILS ENGINEERS		
30	DESIGNERS	6	HYDROLOGISTS		SPECIFICATION WRITER	**1275**	**TOTAL PERSONNEL**

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 9 WV Professional Engineers in Bridgeport (50 companywide)

*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? ☐ Yes ☐ No

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Qualification Questionnaire".

NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
TRIAD Engineering, Inc. 10541 Teays Valley Road, Scott Depot, WV 25560	geotechnical investigation services including drilling investigation and technical reporting of findings	☒ Yes ☐ No
NAME AND ADDRESS: H&H Resources 1536 Rock Run Road West Union, WV 26454	SPECIALTY: Realty negotiation and acquisition as well as supporting services such as title research and documentation	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
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE ☐ Yes ☐ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE ☐ Yes ☐ No

12. Experience

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

YES Description and Number of Projects: CEC personnel have 90 years of direct Abandoned Mine Lands Remediation/Mine Reclamation Engineering experience. In 2018, CEC was awarded the Excellence in Construction Award for the Shinns Run Portals Reclamation Design Project by the Associated Builders and Contractors, Inc. CEC personnel have also designed the Ohio Abandoned Mine Lands Project – Flint Run Acid Mine Drainage that received a national award. The list below is some of the project that CEC personnel have designed in the past.

1. Stollings (White) Portals, three mine seals, sediment and erosion control
2. Norton Highwall #1 reclamation design to eliminate 8,900 LF of highwall with 11,145 LF of drainage ditches
3. Virginia DMME AMD Passive Treatment System (non-BFS) – sulfate reducing bioreactor, settling pond, aerobic wetlands
4. Tub Run Highwall and Refuse Phase II, reclamation design to eliminate 12,500 LF of highwall with 11,400 LF of drainage ditch design and roadway design
5. Tub Run Highwall and Refuse Phase I, reclamation design to eliminate 10,000 LF of highwall with 9,900 LF of drainage ditch design with a large box culvert
6. Greenbrier Hollow Refuse, reclamation design removal of cast over the hill coal refuse pile, 2 mine seals and 1,015 LF of drainage ditch design.
7. Island AMD Passive Treatment System (non-BFS) – iron oxidation, acid neutralization, metal precipitation/ collection, hydrologic conveyances
8. Sauls Run Strip and Landslide "Emergency AML Project" This project was completed from start to finish in (4) weeks including field survey, design, subsurface investigation plan, design and removal of three slips behind house on Sauls Run.
9. North Taylor AMD Passive Treatment System (non-BFS) – acid neutralization, mixing basin, aerobic wetlands, hydrologic conveyances, revegetation

CEC personnel have successfully completed 20+ acid mine drainage evaluation and abatement design

projects. NO

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: CEC has routinely completed soil analysis and acid base accounting for mining impacted properties including the West Virginia Department of Environmental Protection Office of Abandoned Mine Lands. On all of our past AML reclamation design projects, CEC performed soil analysis or had the analysis performed by subconsultants. CEC has routinely completed soil analysis on AML for stream restoration focusing on ABA, Pyritic Sulfur, and Nutrient Content. CEC has also performed soil analysis for the Oil & Gas Industry focusing on VOCs, PAHs, Phthalate Esters, Petroleum Compounds, Metals, Anion, and Radionuclides. CEC has completed soil analysis on approximately 50 projects.

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: CEC personnel have successfully completed numerous hydrology and hydraulics projects associated with bridges, box culverts, piping, ditchwork, and sediment ponds. CEC personnel have completed 60 AML related hydrology and hydraulics projects. Sabin Shrestha and Swastik Bhandari from the Bridgeport CEC office both have Master's Degree in Water Resources (hydrology and hydraulics, proficient with Flowmaster- Storm Drainage Design – Storm Drainage Modeling – Stormwater BMP Research and Design – Surface Water Hydraulics/Hydrology – HydroCad v8.0, have been published numerous times and have both passed the Professional Engineering exam and are waiting for their PE to be awarded. CEC has local industry experts as noted above in hydrology and hydraulics.

1. Shinns Run Portals (WVDEP) – field surveying, subsurface investigations of impounded mine pools, records review, HEC-RAS hydrologic evaluation, streambed seals, ditchwork, piping, subsurface drains, stream bank protection, roadbed protection, soil testing, preliminary and final designs / construction plans, dewatering operation, mine drainage treatment, opinion of cost, bid schedule, calculation brief, meeting attendance
2. Pageton (Lambert) Portals (WVDEP) – Reclamation design of coal refuse pile with 51,000 cubic yards of excavation, 24 wet mine seals, 13,700 L.F. sediment control, 1,600 L.F. ditchwork, piping, streambank protection, 24 acres revegetation, topographic surveying, construction mapping, soil testing, hydraulic studies and design, preliminary and final design, construction plans and specifications, engineers cost estimate, bid schedule, calculations brief, onsite preliminary design/pre-bid/pre-construction meetings, reporting and invoicing
3. Birds Creek Number 4 (WVDEP) – Reclamation design of coal refuse pile with 35,000 cubic yards of excavation, 8 wet mine seals, 5 bat gate designs, 18 acres revegetation, topographic surveying, construction mapping, soil testing, hydraulic studies and design, preliminary and final design, construction plans and specifications, engineers cost estimate, bid schedule, calculations brief, onsite preliminary design/pre-bid/pre-construction meetings, reporting and invoicing.

NO

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

YES Description and Number of Projects: CEC routinely collects LiDAR topographic data and aerial imagery with more than 200 projects successfully delivered for various state, federal and private clients. Typical resolution of contour mapping is suitable to produce 1.0 ft contours. Also CEC personnel managed the North and South mapping contract for several years for the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands. The contract consisted of a 3 year assignment with the WVDEP and involved surveying and mapping services to be used for the design and construction of Abandoned mine lands projects located throughout the northern counties of West Virginia.

NO

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

YES Description and Number of Projects: CEC's Bridgeport office has a water resources group which has 10 staff members and has over 100 years of experience with domestic waterline design and construction. This group has also performed design and construction of several AML waterline projects including Terra Alta, Masontown, Tunnelton and 2 projects in Lewis County. CEC completes extensive water transfer projects for the oil & gas industry and municipal water supplies on approximately 50 projects. CEC personnel have also worked on over 8 waterline feasibility studies with the West Virginia Department of Environmental Protection office of Abandoned Mine Lands.

CEC staff members have extensive experience in the evaluation of aquifer degradation as a result of mining to determine if abandoned mine lands impact to groundwater and surface water. In the Town of Newburg, WV CEC looked at impact for 96 homes. Correspondence from the Newburg PSD indicated past mining operations may contribute to their water quantity and quality problems. The Project involved a Preliminary Investigation to determine the impact pre-law mining had on the water resources within the study area. The investigation included project mapping, public and private record search and surface, ground water sampling along with resident interviews, geologic and hydraulic investigations and review and identification of historic mining operations in or near the project area. Mining has impacted potable water supplies and a further determination was made if the mining occurred before or after the Surface Mining and Reclamation Control Act of August 3, 1977 (pre-law mining). Pre-law impacts qualify for assistance from the Abandoned Mine Lands program. The investigation concluded all seven (7) resident's water supplies have been impacted by abandoned pre-law deep mines and qualify for AML funding. Alternatives investigated for mediation included No Action, Individual Well and Water Treatment Systems, and extension of the Norton Harding Jimtown PSD distribution system to the affected 7 residents at an estimated cost of $378,000.

Another project involved extending approximately 15 miles of waterline to serve 103 residents whose water supply had been diminished or contaminated. The project involved a preliminary investigation to determine the impact pre-law mining had on the water resources within the study area. This study included surface and ground water sampling and reporting; public and private record search to determine if residents potable water supply have been impacted by mining; and secondly, if the mining that impacted potable water supplies occurred prior to the Surface Mining and Reclamation Control Act of August 3, 1977. Pre-law impacts qualify for assistance from the Abandoned Mine Lands (AML) Program. The preliminary investigation included a complete hydrologic and geologic investigation of the study area and development of supporting documents and maps to apply for the AML&R Grant for the waterline extension. The study determined that residents water supplies have not been impacted by abandoned mine lands.

On both examples, Dennis Miller, PS and Gregory Linder, PE had direct project experience from field sample collection to drafting and report preparation.

NO

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

YES Description and Number of Projects: CEC routinely assesses AMD and designs passive and active treatment management practices for treatment of acid mine drainage. CEC has completed approximately 20 AMD remediation projects. CEC employs mining geochemists with nearly 30 AMD remediation projects in prior and current employment.

Benjamin Faulkner, LRS has 41 years of experience working in West Virginia on Acid Mine Drainage projects and is on the Acid Mine Drainage Task Force. Dennis Miller, PS has over 25 years of experience working on Acid Mine Drainage projects (most of which with Ben Faulkner), Timothy Denicola, PG CFM has 6 years of experience with acid mine drainage projects.

NO

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:
Faulkner, Benjamin B. Bridgeport, WV Office	41	42	2

Brief Explanation of Responsibilities
Mr. Faulkner provide technical expertise and oversight with regard to all aspects of the project. His start to end project delivery experience and history of research in environmental matters will aid the project team to deliver a successful project tailored to the needs of the WV DEP.

EDUCATION (Degree, Year, Specialization)
Graduate Certificate, 1986, Environmental Studies, WV College of Graduate Studies
B.S., 1979, Biology, Concord University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
-Society of Environmental Toxicology and Chemistry -West Virginia Mine Drainage Task Force -Society for Freshwater Science -West Virginia Coal Association, Inc. -International Mine Water Association -American Society of Mining and Reclamation -Society for Mining, Metallurgy, and Exploration, Inc. -Air & Waste Management Association -American Society of Reclamation Sciences	Licensed Remediation Specialist, West Virginia Approved Person - Surface Mine/Quarry Permit Applications, West Virginia Department of Environmental Protection Mines and Minerals

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:
Miller, Dennis E. Bridgeport, WV Office	24	33	0 Domestic 5 AML

Brief Explanation of Responsibilities
Mr. Miller will be the Principal in Charge for these projects. Of his 33 years of experience, 24 have been spent working on and with the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation Bond Forfeiture Program and Emergency Program. Mr. Miller has performed water sampling collection, surveying and mapping, design plan preparation, construction monitoring and post design/construction water quality monitoring of passive AMD projects. Mr. Miller has worked on over 49 AML projects that were study and or design, he has also work on over an additional 50 with the emergency program and bond forfeiture program. Mr. Miller also has been the principal in charge and surveyor in charge of several large transportation projects. Over the past 8 years Mr. Miller has served as the office lead and surveyor in charge on over 100 roadway improvement projects including bridge replacement projects, roadway slip repair projects and bridge replacement projects.

EDUCATION (Degree, Year, Specialization)
A.S., Surveying, Glenville State College, 1989

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Ohio Oil & Gas Association Contractors Association of West Virginia	Professional Surveyor, 1993, West Virginia Professional Surveyor, 2007, South Carolina Approved Person - Surface Mine/Quarry Permit Applications, West Virginia Department of Environmental Protection Mines and Minerals

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:
Martinez, Daniel A. Bridgeport, WV Office	2	6	1

Brief Explanation of Responsibilities
Mr. Martinez will serve as the project manager and oversee all project related activity. He will also act as one of the designer's under the guidance of Mr. Linder. Mr. Martinez brings a diverse background of more than 8 years of experience in various aspects of civil engineering to include project management, land development, ecosystem restoration, transportation engineering, and hydraulics and hydrology.

EDUCATION (Degree, Year, Specialization)
B.S., 2014, Civil Engineering Technology, Fairmont State University

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers (ASCE) American Council of Engineering Companies WV (ACECWV)	Professional Engineer, 2021, West Virginia Professional Engineer, 2021, Pennsylvania

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:
Eshun, Kow O. Bridgeport, WV Office	10	10	2

Brief Explanation of Responsibilities
Mr. Eshun is a Principal with in CEC's Bridgeport Office and will be responsible for geotechnical aspects as well as monitoring project progress.

EDUCATION (Degree, Year, Specialization)
B.S., 2005, Civil Engineering, Kwame Nkrumah University of Science and Technology
M.S., 2013, Geotechnical Engineering, The University of Akron

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Civil Engineers, Project Management Institute, Deep Foundations Institute	Professional Engineer – TX [redacted] KY [redacted] MD [redacted] WV [redacted] PA [redacted] VA [redacted] OH PE. [redacted]

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML SURVEY EXPERIENCE:	YEARS OF AML RELATED SURVEY EXPERIENCE:	YEARS OF DOMESTIC WATERLINE SURVEY EXPERIENCE:
Littler, Jason H. Bridgeport, WV Office	15	24	5

Brief Explanation of Responsibilities

Mr. Littler has over 24 years of experience including positions Survey Practice Lead, Survey Manager and AML Mapping Program manager. Mr. Littler served as Survey Project Manager in charge of surveying and mapping for the WVDEP Office of Abandoned Mine Lands & Reclamation Northern and Southern Mapping Contracts, on these projects with the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands. These contracts consisted of a 3 year assignment with the WVDEP and involved surveying and mapping services to be used for the design and construction of Abandoned mine lands projects located throughout the northern counties of West Virginia. Mr. Littler was in charge of the successful completion of the mapping for 93 individual projects with a total mapped acreage of 10,800 acres. Mr. Littler was responsible for the client maintenance, field visits, billing, invoicing and oversight for this three year assignment. Also Mr. Littler has experience as a roadway surveyor and Survey Project Manager. He has been in direct charge with as many as 12 survey crews, which all reported to him and were supervised by him for direction and client satisfaction. He has been in professional charge of several boundary surveys ranging in size from small lot and partition surveys to large multi-tract 1000 acre surveys.

EDUCATION (Degree, Year, Specialization)

A.S., 1995, Civil Engineering Technology, West Virginia Institute of Technology

B.S., 1996, Engineering Technology (Survey Emphasis), West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
West Virginia Society of Professional Surveyors Ohio Oil & Gas Association	Professional Surveyor, 2006, West Virginia

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:
Denicola, Timothy A. Bridgeport, WV Office	6	8	0

Brief Explanation of Responsibilities

Mr. Denicola will conduct water quality and soil chemical sampling along with provide any AMD remediation design that may be required.

EDUCATION (Degree, Year, Specialization)

M.S., 2013, Geology, West Virginia University

B.S., 2006, Chemistry, Clarion University of Pennsylvania

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Member of several northern WV non-profit watershed associations	Erosion and Sediment Control Responsible Personnel (Green Card), 2015, Maryland, No. RPC004062 State Highway Administration Erosion and Sediment Control (Yellow Card), 2015, Maryland, No. 15-477 Association of State Floodplai (ASFPM) Certified Floodplain Manager (CFM), No. [redacted]

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:
Fluharty, Matthew W. Bridgeport, WV Office	19	21	21
Brief Explanation of Responsibilities Mr. Fluharty will be in charge of any domestic waterline design that may accompany the projects associated with this solicitation.			
EDUCATION (Degree, Year, Specialization) B.S., 2000, Civil Engineering, West Virginia University			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Water Works Association American Society of Civil Engineers	REGISTRATION (Type, Year, State) Professional Engineer, West Virginia Professional Engineer, Pennsylvania Professional Engineer, Maryland Professional Engineer, Ohio		

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:
Adams, Travis W. Bridgeport, WV Office	20	23	23
Brief Explanation of Responsibilities Mr. Adams will be a part of any domestic waterline design that may accompany the projects associated with this solicitation.			
EDUCATION (Degree, Year, Specialization) B.S., 1998, Environmental Science (Emphasis on Water Quality), West Virginia University			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)		

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES
1. AutoCAD Civil 3D
2. ESRI ArcGIS
3. Topcon, Nikon, and Trimble Robotic Total Stations
4. Topcon, Trimble RTK-GPS
5. Leica Terrestrial LIDAR 3D Scanner
6. Velodyne Mobile LIDAR (ground and aerial based)
7. DJI small unmanned aircraft system (sUAS)
8. Topcon, Nikon automatic levels
9. Trimble GeoExplorer 6000 Series
10. YSI ProPlus Multi-parameter Probe
11. Marsh McBirney Flow Meter
12. Hanna HI 98703 Turbidity Meter
13. Hanna HI 99121 Direct Soil pH Meter
14. Submersible and Peristaltic Pumps
15. Mini RAE 3000 Portable Handheld VOC Monitor
16. Corel 98 Suite
17. Microsoft Office Suite
18. North American Green Erosion Control Blanket Software
19. KY Pipe Water and Sewer Line Software
20. Bentley MicroStation with InRoads

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
Border Wall RGV 08 and RGV 09 Design Build – Civil, Structural, H&H, Electrical Rio Grande Valley, Texas	United States Army Corps of Engineers, 819 Taylor St, Fort Worth, TX 76102	Border wall structural design and layout, new road design, site grading, stormwater systems, surveying/mapping, construction stakeout and inspection	$541,000,000	Design: 100% Construction: 20%
Sand Spring Run – Stream Sealing and Restoration Frostburg, Maryland	Maryland Department of the Environment – Abandoned Mine Land Division 160 South Water St, Frostburg, Maryland 21532	Stream restoration design and Geosynthetic liner design and sealing, sanitary sewer relocation.	$491,000	Design: 100% Construction start: Spring 2022
Lyons Run AMD Remediation Project and Mitigation Bank Westmoreland County, PA	Lyons Run Watershed Association 2500 Eldo Road Monroeville, PA	Historic water quality review, water quality sampling, remediation design, development of mitigation banking prospectus, ecological delineation, survey.	$1,800,000	Design: 90% Construction Start: Spring 2022
Export/Delmont AMD Remediation Westmoreland County, PA	Lyons Run Watershed Association 2500 Eldo Road Monroeville, PA	Historic water quality review and sampling, Ecological delineation, chemical loading and treatment calculations, engineering design of an automated calcium oxide slurry treatment system and development of solids handling practices.	$5,500,000	Design: 30% Construction Start: 2023
MND 9 Landslide Stabilization, Moundsville, WV	HG Energy, LLC 5260 Dupont Road Parkersburg WV	Site survey, ecological delineations, permitting, geotechnical engineering design of the landslide remediation and stabilization, construction inspection and compaction testing.	$350,000	Design: 100% Construction: 80%
Kirk Pad Landslide Remediation Salem, WV	Antero Resources Corporation 535 White Oaks Blvd Bridgeport WV	Site assessment, topographic survey, permitting, Geotechnical investigation and remediation design.	$300,000	Design: 100% Construction: 80%

River Road Slips Landslide and Road Repair Monongalia County, WV	WVDOH District Four 2460 Murhpys Run Road Bridgeport, WV 26330	Complete surveying, permitting, right of way, utility coordination, and geotechnical investigation/design of pile and lag walls, soil nail walls, and tieback walls for 20 landslides along County Route 45 (River Road) in Morgantown.	$4,250,000	Design: 100% Construction start: Spring 2022
Moose Lake subsidence mitigation and construction inspection for multiple panels Cameron, WV	MarkWest Energy Partners, LP 4600 J. Barry Court Suite 500 Canonsburg, PA	Engineering, survey, geotechnical, permitting, and construction engineering and inspection in support of subsidence mitigation around sensitive infrastructure during long wall mining operations.	$3,000,000	Design: 100% Construction: 50%
Monongah Precast Mine Grouting Plan and Bridge Replacement, Monongah, WV	WVDOH District Four 2460 Murhpys Run Road Bridgeport, WV 26330	Mine subsidence evaluation, mine subsidence grouting and stabilization plan, survey, ecological delineations and permitting, geotechnical investigation and design, bridge replacement design, roadway improvements and staged construction design.	$2,500,000	Design: 100% Construction start: Summer 2022
Buffalo Creek Mine Subsidence Bridge Replacement, Mannington, WV	EQT Production Company 400 Woodcliff Drive Canonsburg PA WVDOH District Four 2460 Murhpys Run Road Bridgeport, WV 26330	Mine subsidence evaluation, survey, ecological delineations and permitting, geotechnical investigation and design, bridge replacement design, roadway improvements and temporary traffic control plans.	$2,500,000	Design: 90% Construction start: November 2021
TOTAL NUMBER OF PROJECTS: 10 (CEC has many more projects running concurrently. These are the most applicable			TOTAL ESTIMATED CONSTRUCTION COSTS: $561,691,000	

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
Border Wall RGV 08 and RGV 09 Design Build – Civil, Structural, H&H, Electrical Rio Grande Valley, Texas	Border wall structural design and layout, new road design, site grading, stormwater systems, surveying/mapping, construction stakeout and inspection.	United States Army Corps of Engineers, 819 Taylor St, Fort Worth, TX 76102	2023	$541,000,000	$35,000,000
Guyan Creek Bridge Construction Engineering Mount Olive, WV	Demolition Plan, Erection Plan, Shoring Design, Temporary Bridge Design	West Virginia Division of Highways, Engineering Division, Capitol Complex, Building 5, 1900 Kanawha Blvd., East, Charleston, WV	2021	$751,306	$751,306
Marshall County Airport Extension NPDES Permitting Marshall County, WV	NDPES permitting and construction services	Ohio-West Virginia Excavating, Co. 56461 Ferry Landing Road Shadyside OH	2023	$3,000,000	$15,000
Exelon Clearsight TX Power 1 Surveying Lubbock, TX	Right-of-way mapping, vegetation analysis, power line compliance reporting	South Plains Electric Cooperative Incorporated	December 2021	Undisclosed	$60,000
Cubby’s Daycare Site Development Bridgeport, WV	Water/sewer line design, Surveying, Construction Inspection, Geotechnical and Civil Engineering	CUBBY'S CHILD CARE CENTER, INC 801 Genesis Blvd Bridgeport, WV 26330	Summer 2022	$3,000,000	$300,000
Hawk’s Nest State Park Improvements Ansted, WV	Civil Site design, ADA Pathways, Construction Administration	West Virginia Division of Natural Resources 324 4th Avenue South Charleston, WV 25303	Spring 2022	Undisclosed	$200,000

16. 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)
Beaver Creek Passive AMD Treatment Preston County, WV	Friend of the Cheat, Inc. 119 South Price Street Suite 206 Kingwood, WV 26537	$296,000	2020	Yes
Shinns Run Portals Subsidence and Portal Sealing Shinnston, WV	WVDEP, Office of Abandoned Mine Lands 601 57th St. SE, Box 20 Charleston, WV 25340	$1,617,796	2016	Yes
Mcalpin Portals and Drainage Mine portal sealing and drainage structure maintenance Bridgeport, WV	WVDEP, Office of Abandoned Mine Lands 601 57th St. SE, Box 20 Charleston, WV 25340	$1,351,743	2018	Yes
Charles Pointe Development Commercial site development and mass earthwork with complete infrastructure design Bridgeport, WV	Genesis Partners, LP P.O. box 1000 Bridgeport, WV 26330	$20,000,000	2018	Yes
Lower Dempsey Stream Restoration highwall grading on AML Logan, WV	Ecosystem Investment Partners, LLC 5550 Newbury St, Ste B Baltimore, MD 21209 Canaan Valley Institute, Inc. 494 Riverstone Rd Davis, WV 26260	$5,200,000	2016	Yes
Georges Creek Shaft Stream restoration and sealing and mine portal closure Frostburg, WV	Maryland Department of the Environment - Abandoned Mine Land Division 160 South Water St, Frostburg, Maryland 21532	$5,216,206	2018	No
Dulaney Subsidence Damage Complaint Mine Subsidence Evaluation and Report for Structure Damage Colliers, WV	State of West Virginia Board of Risk and Insurance Management 1124 Smith Street Suite 4300 Charleston, WV 25301	undetermined	2020	N/A
St. Clair Subsidence Damage Complaint Mine Subsidence Evaluation and Report for Structure Damage Brenton, WV	State of West Virginia Board of Risk and Insurance Management 1124 Smith Street Suite 4300 Charleston, WV 25301	undetermined	2019	N/A

17. 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
Corduroy Inn at Snowshoe	Omni Associates 207 Jefferson St. Fairmont, WV 26554	$21,000	2019	Yes	Omni Associates
MCPARC Wave Pool Improvements	Omni Associates 207 Jefferson St. Fairmont, WV 26554	$24,000	2018	Yes	Omni Associates
Elkins Mon General	Omni Associates 207 Jefferson St. Fairmont, WV 26554	$24,000	2018	Yes	Omni Associates
East Side Fire Station	Omni Associates 207 Jefferson St. Fairmont, WV 26554	$22,000	2019	Yes	Omni Associates
Bridgeport Rec Center, Site Development	City of Bridgeport 515 West Main St. Bridgeport, WV 265330	$600,000	2019	Yes	Omni Associates
First Exchange Bank	Omni Associates 207 Jefferson St. Fairmont, WV 26554	$23,000	2019	Yes	Omni Associates
Pike Fork Bridge Construction Engineering Webster Springs, WV	WVDOH, District 7 131 highland Drive West, WV 26452	$1,600,000	2019	Yes	Bear Contracting, LLC

18. 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.

Civil & Environmental Consultants, Inc. (CEC) personnel have experience with esoteric aspects of mine land reclamation and mine water remediation. CEC does not employ generic remediation strategies, but assesses and evaluates critical details of water chemistry, reaction dynamics, soil properties, hydrologic properties, regional geology, and client and landowner needs. CEC personnel have decades of experience in the reclamation community, familiarity with modern reclamation techniques, and access to a suite of engineering design/geochemical software. Site grading, volumetric analysis, and hydraulic assessments constitute a bulk of work completed by CEC Bridgeport. CEC presents an interdisciplinary team utilizing a data and client driven approach to mine land reclamation and mine water remediation.

19. The foregoing is a statement of facts.

Signature: _____ Title: Vice President

Printed Name: Dennis E. Miller

Date: June 21, 2022

Appendix B

AML and Related Project Experience Matrix

AML and RELATED PROJECT EXPERIENCE MATRIX

PROJECT	Exp. Basis C Corp. P Personnel	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS															PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional					
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/ Mitigation/ Replacement	Construction Inspection/ Management	Water Treatment	Equipment/ Structure Removal	Stream Restoration	Geotechnical/Stability	Timothy Denicola, PG AMD Design	Dennis Miller, PS QA/QC Manager	Ben Faulkner, LRS Technical Advisor	Jason Littler, P.S. Survey Manager	4 Survey Crews	5 CADD Operators
McAlpin Portals and Drainage	P		X	X	X	X			X		X	X		X		X	X				P	P	P
Lyons Run AMD Remediation	P		X			X					X	X		X			X	P		P	P	P	P
Export AMD Assessment	P		X			X					X	X		X			X	P		P	P	P	P
Hodgesville (Wright) Mine Blowout	C		X	X	X	X			X		X	X		X							P	P	P
Arlington (Gain) Highwall	C		X			X					X								P		P	P	P
Camden (Hartley) Dangerous Landslide*	C		X			X					X	X					X				P	P	P
Shinns Run Portals	P			X	X	X			X		X	X		X		X			P		P	P	P
Special Rec. Multiple Projects	C		X	X	X	X			X		X	X		X			X				P	P	P
Norton Highwall #1	P		X	X	X	X					X			X	X				P		P	P	P
Tub Run Highwall and Refuse Phase II	P		X	X	X	X				X	X			X	X							P	P
Tub Run Highwall and Refuse Phase I	P		X			X					X				X							P	P
Newburg Waterline Feasibility Study	P					X						X		X									P
Point Mtn. Waterline Feasibility Study	P					X						X		X									P
Greenbrier Hollow Refuse	P		X	X	X	X					X			X	X							P	P
Sauls Run (Carpenter) Landslide	P		X	X	X	X					X			X	X		X		M		P	P	P
Pageton (Lambert) Portals	P		X	X	X	X					X			X	X							P	P
Birds Creek #4	P		X	X	X	X					X			X	X							P	P
Church Creek/Manown Highwall	P		X		X	X					X				X	X						P	P
Racine (Bradshaw) Portals	P			X	X	X					X				X	X						P	P
Hampton #4 Maintenance	P		X			X					X	X				X	X		M		P	P	P
Howesville Sites	P		X	X	X	X				X	X	X			X	X	X					P	P
Sandy Run Highwall and Portals	P		X	X	X	X				X	X	X			X	X	X					P	P
Wilsie-Rosedale Waterline Feasibility I.D. # 324	P					X						X		X			X						P
Laurel Valley (Daniels) Landslide	P		X			X					X						X		M		P	P	P
Price Hill Airshaft/Buildings	P			X	X	X					X	X		X	X		X		M		P	P	P
Glady Fork AMD Trmt. Plant.	P			X		X					X	X	X	X			X		M		P	P	P

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	Timothy Denicola, PG AMD Design	Dennis Miller, PS QA/QC Manager	Ben Faulkner, LRS Technical Advisor	Jason Litter, P.S. Survey Manager	4 Survey Crews	5 CADD Operators
Weaver Portals, Ph. I & II	P		X	X	X	X			X		X	X	X	X	X	X	X		M		P	P	P
Nixon Run AMD	P		X	X	X	X					X	X		X	X	X	X		M		P	P	P
Taylor Waterline Feasibility, I.D. # 309	P					X						X		X									P
Poplar Ridge Waterline Feasibility, I.D. # 298	P					X						X		X									P
Summit Park Waterline Feasibility I.D. # 288	P					X						X		X									P
Fairmont (Hendrickson) Subsidence	P			X		X			X		X	X					X		M		P	P	P
Tunnelton (Dillsworth) Landslide	P			X		X			X	X	X				X		X		M		P	P	P
Arlington (Cox) Drainage	P			X	X	X			X		X		X				X		M		P	P	P
Sauls Run Strip and Landslide	P		X			X					X		X			X	X		M		P	P	P
Hodgesville Waterline Feasibility I.D. # 275	P					X						X		X									P
McElwain Waterline Feasibility I.D. # 271	P					X						X		X									P
Old Bridgeport Hill Mine Drainage, Ph II	P		X	X	X	X			X		X	X		X	X	X	X		M		P	P	P
Flint Run East Acid Mine Drainage	P		X			X				X	X	X		X	X	X	X			P		P	P
Murray City AMD and Art Project	P			X	X	X					X	X		X								P	P
Danehart Acid Mine Drainage	P		X			X			X		X	X		X			X		M			P	P
Nutters Tipple Bond Forfeiture	P		X			X				X	X				X	X	X		M			P	P
Lake Milton Acid Mine Drainage	P		X			X					X	X		X	X	X	X					P	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.

Attachment "C"

Appendix C

Key Personnel Qualifications & Resumes

Dennis E. Miller, P.S.

Vice President and Bridgeport Office Lead

34 YEARS OF EXPERIENCE

EDUCATION

A.S., Surveying, Glenville State College, 1989

EXPERTISE

Project / Program Management

Geodetic Control Networks

Airport Obstruction Surveying

Airport Surveying

Transportation & Bridge Surveying

REGISTRATIONS

Professional Surveyor

- WV [redacted]
- SC [redacted]

CERTIFICATIONS

Notary Public, West Virginia

Adult First Aid with CPR/AED/BBP, MEDIC First Aid

USACOE Construction Quality Management for Contractors , US ARMY Corps of Engineers

10-Hour OSHA Construction Safety (Occupational Safety & Health Administration), OSHA

30-hour Construction Safety & Health, OSHA

Approved Person - Surface Mine/Quarry Permit Applications, West Virginia Department of Environmental Protection Mines and Minerals

Mr. Miller has over 34 years of consulting experience and serves as the Office Lead/ Vice President of the Bridgeport, WV office. He is responsible for overseeing daily operations, promoting a safe working environment, staff development and office development, project management and client development.

Of the 33 years of experience 24 have been spent working on transportation projects, bridges, roads and airports. Mr. Miller has been the principal in charge and surveyor in charge of several large transportation projects including the Nationwide Airport Obstruction Survey Contract, Mr. Miller was the program coordinator, principal and lead field surveyor in charge, responsible for the overall program development for nationwide WAAS surveying. Mr. Miller performed all field surveying associated and described in AC 150 5300 16A, 17B & 18B including PACS & SACS reestablishment, photo control, runway end, runway centerline, NAVAIDS surveying, UDDF submission on over 16 airports from Morgantown West Virginia to Victoria Texas, the airports covered six different states.

Mr. Miller is responsible for professional development and staff mentoring. He is in constant communication with clients, project managers and key technical staff, providing the guidance necessary to ensure that every project is completed with professionalism and efficiency. Mr. Miller has worked on both private and public sectors and has noteworthy experience in the policies and procedures within WVDEP, WVDOT, FHWA, FAA.

PROJECT EXPERIENCE

Abandoned Mine Lands

Stollings (White) Portals, WVDEP

Role: Principal in Charge

Mr. Miller was the Principal in charge for this CADD services contract for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands project. The project is located in very close proximity to an occupied house and involved installing and backfilling three (3) bat gate mine seals, sediment and erosion control, and revegetation. Six (6) construction sheets detailing AML standards were computer drafted for the project. The project involved an onsite kick-off meeting, developing and submitting a cost proposal and scope of work letter for approval, submitting a final design package, invoicing, attending meetings, and progress reports.

Webster Point Mountain Waterline Feasibility Study, I.D. No. 384

Role: Principal in Charge

Mr. Miller served as Principal in charge and conducted water sampling and analysis on this study to determine if abandoned mine lands were adversely affecting residents along the proposed waterline extension corridor. The project involved extending approximately 15 miles of waterline to serve 103 residents whose water supply had been diminished or contaminated. The project

involved a preliminary investigation to determine the impact pre-law mining had on the water resources within the study area. This study included surface and ground water sampling and reporting; public and private record search to determine if residents potable water supply have been impacted by mining; and secondly, if the mining that impacted potable water supplies occurred prior to the Surface Mining and Reclamation Control Act of August 3, 1977. Pre-law impacts qualify for assistance from the Abandoned Mine Lands (AML) Program. The preliminary investigation included a complete hydrologic and geologic investigation of the study area and development of supporting documents and maps to apply for the AML&R Grant for the waterline extension. The study determined that residents water supplies have not been impacted by abandoned mine lands.

Greenbrier Hollow Refuse
Role: Principal in Charge
Mr. Miller served as Principal in charge and surveyor on this $834,000 abandoned mine lands reclamation project located near McDowell in McDowell County West Virginia. The reclamation design removed a cast-over-the-hill coal refuse pile located directly behind the First Baptist Church of McDowell to a stable configuration that involved 51,00 cubic yards of earthwork. The project included two (2) wet mine seals and 8 acres of vegetation. The project had 1,015 linear feet of drainage ditches, two (2) manholes, and a temporary stream crossing. The project involved extensive coordination with utility companies having lines inside the project area. The project involved treating AMD during mine dewatering and construction, and a sediment control plan and approved NPDES permit to control construction runoff. Other permits completed for the project included MM109 permits to work in the right-of-way of State roads and a USACOE permit for the stream crossing. The project involved topographical surveying to supplement project mapping, preliminary designs, final designs, specifications, calculation brief, bid schedule, engineer's estimate of probable construction costs, pre-bid and pre-construction conferences, and monthly reports, and invoicing.

Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356
Role: Principal in Charge
Mr. Miller served as Principal in charge to determine abandoned mine lands impact to groundwater and surface water for seven (7) homes located along Randolph County Route 5/5. Correspondence from the Norton Harding Jimtown PSD indicated past mining operations may contribute to their water quantity and quality problems. The Project involved a Preliminary Investigation to determine the impact pre-law mining had on the water resources within the study area. The investigation included project mapping, public and private record search and surface, ground water sampling along with resident interviews, geologic and hydraulic investigations and review and identification of historic mining operations in or near the project area. Mining has impacted potable water supplies and a further determination was made if the mining occurred before or after the Surface Mining and Reclamation Control Act of August 3, 1977 (pre-law mining). Pre-law impacts qualify for assistance from the Abandoned Mine Lands program. The investigation concluded all seven (7) resident's water supplies have been impacted by abandoned pre-law deep mines and qualify for AML funding. Alternatives investigated for mediation included No Action, Individual Well and Water Treatment Systems, and extension of the Norton Harding Jimtown PSD distribution system to the affected 7 residents at an estimated cost of $378,000.

Lewis County Economic Development Authority Waterline Feasibility Study, I.D. No. 374
Role: Principal in Charge
Mr. Miller served as Principal in charge on this study to determine if abandoned mine lands were adversely affecting residents along the proposed waterline extension corridor. The project involved extending approximately 15.2 miles of waterline to serve 110 residents whose water supply had been diminished or contaminated. The project involved a preliminary investigation to determine the impact pre-law mining had on the water resources within the study area. This study included surface and ground water sampling and reporting; public and private record search to determine if residents potable water supply have been impacted by mining; and secondly, if the mining that impacted potable water supplies occurred prior to the Surface Mining and Reclamation Control Act of August 3, 1977. Pre-law impacts qualify for assistance from the Abandoned Mine Lands (AML) Program. The preliminary investigation included a complete hydrologic and geologic investigation of the study area and development of supporting documents and maps to apply for the AML&R Grant for the waterline extension. The study determined that residents water supplies have not been impacted by abandoned mine lands.

Clarksburg (Ryder Avenue) Drainage, WVDEP
Role: Principal in Charge
Mr. Miller was the Principal in charge and primary design person for this $65,000 Abandoned Mine Lands construction project that involved several homes located at or near the cropline of a coal seam and along the down dip side of a large abandoned

underground mining operation. All homes experienced drainage problems in basements or yards. The project required design of an underdrain system to intercept water from the mines prior to impacting local residents. Subsidence support, in the form of backstowing with stone aggregate, was also designed and provided for yards exhibiting subsidence depressions.

Old Bridgeport Hill Mine Drainage, Phase II , Harrison County, WV

Role: Principal in Charge

Mr. Miller served as the Principal in charge and surveyor on this Abandoned Mine Lands (AML) Construction Project located in Harrison County, West Virginia. The project involved capturing and conveying mine drainage around several businesses located down gradient of a large abandoned mine. Four (4) wet mine seals were designed and approximately 1,400 linear feet of grouted rock riprap ditch, 80-foot subsurface drain, eight (8) culverts, a manhole, and three (3) drop inlets. The project required close coordination with the West Virginia Department of Highways (WVDOH) to marry the AML Project to an on-going storm sewer system construction project. I successfully negotiated moving several proposed drop inlets on the new storm sewer system constructed by the WVDOH to provide convenient outlets for piping and ditches from the AML Project. The project also involved dewatering and treatment of approximately 17.4 M gallons of water estimated to be in the mine pool behind wet mine seal constructions. Several of the constructions were located in proximal to local business buildings and in a buried and overhead rich mine field. Close coordination with the businesses and both public and private utilities were a necessary part of this project.

Poplar Ridge/Morrison Ridge Waterline Extension Feasibility Study, I.D. No. 298

Role: Principal in Charge

Mr. Miller served as Principal in charge to determine abandoned mine lands impact to groundwater and surface water for twenty-one (21) homes located along Poplar Ridge and Morrison Ridge in Braxton County, West Virginia. Correspondence from these home owners indicated mining operations were contributory to their water quantity and quality problems. The Project involved a Preliminary Investigation to determine the impact pre-law mining had on the water resources within the study area. This study included surface and ground water sampling and public and private record search to determine if residents' potable water supply was impacted by mining and if the mining that impacted potable water supplies occurred prior to the Surface Mining and Reclamation Control Act of August 3, 1977 (pre-law mining). Pre-law impacts qualify for assistance from the Abandoned Mine Lands program. The final report included a complete hydrologic and geologic investigation of the study area and development of supporting documents to apply for the AML&R Grant for the waterline extension. Supporting documents included engineers' probable cost of construction for three alternatives. These alternatives included No Action, Drilled Well Replacement, and Extension of the on-going extension of the Flatwoods-Canoe Run PSD Poplar Ridge/Morrison Ridge Waterline Extension Project.

McElwain Waterline Extension Feasibility Study, I.D. No. 271 , Webster County, WV

Role: Principal in Charge

Mr. Miller was the Principal in charge for the preliminary investigation and AML&R Grant Report and supporting documents for the McElwain Waterline Extension located in Webster County, West Virginia. The project involved either extending about 0.6 miles of six-inch waterline or drilling a new well to serve the McElwain Residence. The McElwain residence experienced a diminished and contaminated potable water supply as a result of mining operations. The project involved a preliminary investigation to determine the impact pre-law mining had on the water resources within the study area. This study included surface and ground water sampling and public and private record search to determine if McElwain's potable water supply have been impacted by mining, and second, if the mining that impacted the potable water supply occurred prior to the Surface Mining and Reclamation Control Act of August 3, 1977. Pre-law impacts qualify for assistance from the Abandoned Mine Lands (AML) Program. The final report included a complete hydrologic and geologic investigation of the study area and development of supporting documents to apply for the AML&R Grant for the waterline extension. Supporting documents included engineers' probable cost of construction for three alternatives. These alternatives included No Action, Drilled Well Replacement and Extension of the Cowen PSD Waterline to the McElwain residence.

Special Reclamation Multiple Permits, WVDEP, Philippi and Barbour Counties, WV

Role: Principal in Charge

Mr. Miller served as Principal in charge on this reclamation contract with the West Virginia Department of Environmental Protection, Office of Special Reclamation contract that included five (5) surface and deep mine permits that forfeited their reclamation bonds. The five (5) drastically disturbed mine sites included RobLee Coal Company Forfeited Permit D-49-82, RobLee Coal Company forfeited permit numbers U-1001-91 and O-1009-93, Energy marketing forfeited permit number U-24-84, and Buffalo Coal Company forfeited permit number S-52-80. The engineer’s estimate of probable construction costs for the five (5) mine sites was

$6,400,000. Altogether the five (5) reclamation projects involved 1,002,000 cubic yards of balanced earthwork; three (3) mine seal installations; 22,500 l.ft. of ditches; 3,500 l.ft. of pipes; 37,000 l.ft. of sediment control structures; eight (8) pond designs with spillways; 163 acs. of revegetation; aerial photography of 630 acs. with surveyed controls; property owner negotiations for rights-of-entry; site investigations including subsurface investigations; soil and refuse testing; hydraulic and hydrologic investigations and calculations; highwall elimination with material handling plans; refuse neutralization; calculation brief; construction plans; construction specifications; bid schedules; engineer's estimate of probable construction costs; project meetings; monthly updates, invoicing, and other required deliverables.

Surveys / Geomatics

West Virginia Department of Environmental Protection

Mr. Miller was the Program Coordinator for the planning, development and implementation of the work plan to successfully survey & map abandoned mine sites in West Virginia. This project included the aerial photography / aerial mapping, by both film and lidar, geodetic ground control which included over one-hundred-twenty observation points, photo control points, ground surveying and mapping and quality control. The final mapping was used by various design consultants for the abatement of abandoned mine sites throughout West Virginia.

West Virginia Department of Transportation (Independent Payment Verification)

Mr. Miller was the Program Coordinator/Project Manager and served as a field crew member for the past five years on the independent payment verification for the King Coal highway Red Jacket Section. He was responsible for the Independent Payment Verification Reconciliation Report as required by WVDOT and the FHA on 11.37 miles of four lane divided highway which is an active coal mining & construction site. Mr. Miller organized a team of professionals and developed a strategy for the project. The first year the team collected over 23,000 points of conventional & GPS survey data in four days and the second year over 27,000 points of conventional & GPS data was collected in four days. This project is the first FHA sponsored project that the post mining land use from the coal mining activity is a four lane divided highway; this is a public private partnership.

Project Impact Randolph Tucker Partnership

Mr. Miller was the office manager and served as project manager on the planning, development and implementation of the work plan to successfully install and blue book sixty-five (65) new USGS bench mark monuments within Randolph and Tucker Counties in West Virginia. This project was completed in forty-five (45) days to comply with the funding mechanism and involved three offices and over fifteen employees.

Source Water Assessment Program

Mr. Miller was responsible for the overall project management of the Source Water Assessment and Protection Program (SWAP). The purpose of the project was to complete source water assessments and protection plans for fifteen (15) communities in West Virginia, public water supply systems utilizing surface waters to determine past and present possible contaminates. Mr. Miller managed the inventory of all field and researched data including, agency database research, windshield surveys data, field & office GIS & GPS data collection on each site and sub-site, chemical & biological water quality monitoring results for each site, and the development of the Arc View Access data management tool, and final report compilation. Responsibilities included data collection (which consisted of visiting several sites throughout West Virginia to GPS possible source water contaminants within a pre-determined zone of critical concern), compiling information from various water treatment plants throughout the state, report compilation and assistance with the development of GIS mapping.
** Work performed prior to joining CEC*

PROFESSIONAL AFFILIATIONS

Ohio Oil & Gas Association

Contractors Association of West Virginia

Daniel A. Martinez, P.E.

Project Manager I

8 YEARS OF EXPERIENCE

EDUCATION

B.S., Civil Engineering Technology, Fairmont State University, 2014

Daniel Martinez brings over 8 years of diverse experience in the fields of transportation engineering and analysis, site development, stream restoration, structural drafting and evaluation, and hydraulic and hydrologic modelling. Since joining Civil & Environmental Consultants, Inc., Mr. Martinez has performed county and state road improvements and widenings for over 16 miles of roadway. He has managed and designed an additional 26 miles of rural roadways and associated infrastructure for the federal sector. His roles have been in the capacity of project management, road corridor and typical section improvements, ADA compliant sidewalk and ramp replacements, road widening to accommodate various AASHTO design vehicles and their turning movements, engineer's estimates, erosion and sediment control designs and plans, Hydraulic analysis and reporting, Culvert design, producing bid documents and conducting field investigations.

Mr. Martinez has also performed geomorphic surveys and generated stream and wetland designs to meet site specific performance standards and habitat objectives utilizing a variety of software such as AutoCAD Civil 3D, HydroCAD & Rivermorph. Once the projects are designed and permitted, Mr. Martinez produces the construction plan sets and generates the associated 3D machine control files. Mr. Martinez has performed post-construction as-built surveys using robotic total stations and RTK GPSs and produced record drawings for over 12 miles of stream restoration projects. He has implemented natural channel design theory and completed stream and wetland restoration and enhancement designs for over 18 miles of streams throughout West Virginia, Ohio, Maryland, and Pennsylvania.

PROJECT EXPERIENCE

Ecosystem Restoration and Mitigation

George's Creek - Multi Stream Sealing, Maryland Department of the Environment – Abandoned Mine Lands Division, Frostburg Maryland

Role: Designer

Stream and civil designer apart of restoring approximately 2,000 feet of Georges Creek as a meandering natural stream channel with frequent connectivity to wetlands and a riparian floodplain, fill and seal two abandoned surface mine pits, reclaim two high walls, and construct a public-use recreation pond. Stream and pond liners were designed to prevent flow into the underground mine workings that transport water and pollutants to a neighboring watershed. The project was jointly funded by the Maryland Department of the Environment Abandoned Mine Lands Division and the Chesapeake & Atlantic Coastal Bays Trust Fund

EXPERTISE

Rural Hydraulics & Hydrology

Grading Plans

Stream Restoration Design

Stream flow loss prevention and lining

Bridge Safety Inspection

Road Improvement Design

REGISTRATIONS

Professional Engineer

- WV [redacted]
- PA [redacted]

CERTIFICATIONS

10-hour Construction Safety, Occupational Safety & Health Administration

FAA Part 107 Remote Pilot Certification, U.S. Department of Transportation Federal Aviation Administration

Adult First Aid with CPR/AED/BBP, MEDIC First Aid

SafeLand USA - Basic Orientation, PEC Safety

Level I Applied Fluvial Geomorphology, Wildland Hydrology

Level II River Morphology and Applications, Wildland Hydrology

Transportation Engineering Technician (TRET) - Level V, West Virginia Division of Highways

Bridge Safety Inspector, West Virginia Division of Highways

Daniel A. Martinez, P.E.

Project Manager I

Sand Spring Run - Stream Sealing, Maryland Department of the Environment – Abandoned Mine Lands Division, Frostburg Maryland

Role: Project Manager and Stream Designer

This project entailed installing a Geosynthetic Impermeable Liner underneath of a stream to prevent loss of flow from the stream due to ground water migration into underlying deep mines. Overtop of the liner, natural stream design principles were used to return the stream to a stable and uplifting condition. 2D hydraulic modelling was utilized to evaluate and reduce shear stresses while also providing a restored stream that did not affect the 100 year flood elevations of the project area. Mr Martinez's was the project manager of the site as well as the stream designer. His roles included developing the designs of liner and stream restoration, coordinating the site permitting, assisting in performing the 2D hydraulic modelling, and preparing technical specifications and bid documents for the project.

Brushy Fork Mitigation Bank, Ecosystem Investment Partners, LLC, WV, USA

Role: Stream Designer

Mr. Martinez was involved in mitigation design, culvert analysis and plan set development for this project. The objective of the project was to restore and preserve the streams located within the 1,900 acre project boundary to their natural states to allow for the reintegration of its former biologic and aquatic species, and to generate stream mitigation credits for the client. A total of over 15 acres of wetlands and over 15 miles of streams were designed within with project boundary. Mr. Martinez developed the designs of various streams, as well as being apart of the team that created the permitting and construction plan set to be submitted to the appropriate state regulatory agencies, and the construction contractor.

Charles Pointe Mitigation, Genesis Partners, LP, Bridgeport Harrison, WV

Mr. Martinez was involved in the geomorphic survey, design and plan set development for this project. The objective of the project was to restore entrenched and deficient streams to their ideal natural states to allow for the reintegration of their former biologic and aquatic species, and to generate stream restoration credits for the client. Mr. Martinez developed the designs of over 6 acres wetlands and various tributaries within the watershed. Additionally, he generated the permitting and construction plan sets as well as 3D machine control and stake-out files.

Confidential Stream Restoration and Mitigation Bank, Confidential Client, Ritchie County, WV

Mr. Martinez was involved in the geomorphic survey, terrestrial LiDAR scanning, design and plan set development for this project. The objective of the project was to restore the stream to its natural state to allow for the reintegration of its former biologic and aquatic species, and to generate stream restoration credits for the client. Mr. Martinez developed the preliminary designs of over 1 mile of streams in the phase 1 restoration site as well generated the permitting and construction plan set to be submitted to the appropriate state regulatory agencies.

EIP WV Conservation Easements , Ecosystem Investment Partners, LLC, Logan Varies, WV

Role: Survey Office Technician

Mr. Martinez was involved with the generation of the conservation easements for this site. The objective of this project was to create deed descriptions and boundary plats to provide conservation easements for a proposed stream restoration project. Mr. Martinez created and revised 3 separate boundary exhibits detailing the extents of the conservation easements to be conveyed.

Oxbow Stream Mitigation Bank, Ecosystem Investment Partners, LLC, Macfarlan Ritchie, WV, USA

Role: Stream Designer

Mr. Martinez was involved in mitigation design, culvert analysis and design and plan set development for this project. The objective of the project was to restore and preserve the streams located within the 2,000 acre project boundary to their natural states to allow for the reintegration of its former biologic and aquatic species, and to generate stream mitigation credits for the client. Mr. Martinez developed the designs of various streams as well as generating the permitting and construction plan set to be submitted to the appropriate state regulatory agencies, and the construction contractor.

Southern West Virginia Stream Mitigation Record Drawings, Confidential Client, WV, USA

Role: Stream Designer

Mr. Martinez produced as-built (record) drawings for three separate stream mitigation sites in southern West Virginia. The data was acquired through the uses of terrestrial LiDAR scanning and post-construction geomorphic surveying that was combined to produce record documentation and allow for the ability for regulatory agencies to view the restored streams in a 3D environment

that was created “in-house” and hosted through an online server accessible only to the regulatory agencies and other related parties. These record drawings would also become a part of the reference documents for the 5 year monitoring regime that the mitigation site would endure. The total lengths of streams recorded were over 10 miles in total.

Wetzel Tract Mitigation Bank, Ecosystem Investment Partners, Reader Wetzel, WV
Role: Stream and Road Designer
Mr. Martinez was involved in the geomorphic surveying, culvert analysis, stream restoration and road design and plan set development for this project. The objective of the project was to restore entrenched and deficient streams to their ideal natural states to allow for the reintegration of their former biologic and aquatic species, and to generate stream restoration credits for the client. As part of the proposed mitigation activity, Mr. Martinez developed a conceptual county route improvement plan for a county road that ran adjacent to the primary stream that regularly experienced inundation during heavy storm events. This plan included designs for arch and three sided box culverts that allowed the proposed streams to cross the road without experiencing a disruption in the pattern or dimension of the tributaries. A combination of 3D design and analysis software’s allowed for machine control and stake-out files to be created. Mr. Martinez developed the final designs of the majority of the streams in the phase 1 & 2 restoration sites as well as the permitting and construction plan set submitted to the appropriate state regulatory agencies.

Transportation

Border Wall Design Build - Rio Grande Valley, Southern Border Constructors, Rio Grande Valley, Texas
Role: Designer and Design Manager
Daniel Martinez served as the Design Manager overseeing 2 design teams consisting of 5 members each responsible for over 13 miles of border wall layout and 26 miles of roadway design associated with US/Mexico Border infrastructure in Texas. Daniel was also the engineer directly responsible for the design and layout of approximately 8 miles of roadways and 4 miles of border wall. He developed the design procedures that were used by 13 engineering teams across the country and served as their civil engineering point of contact. Daniel participated in weekly progress calls with Customs and Border Protection (CBP) and the United States Army Corps of Engineers (USACE). The design of the project was held in strict adherence with the standards and specifications set forth from AASHTO, the Texas Department of Transportation, USACE, and CBP. This design-build project started construction in Summer of 2020 and is scheduled to be completed in 2022.

Arnolds Creek Road and Left Fork Road County Route Improvement, Antero Resources Corporation, West Union, West Virginia
Role: Road Designer
Designer in charge of preparing a conceptual widening and improvement design for a 5.1 mile portion of roadway

Brushy Fork Road County Route Improvement, Antero Resources Corporation, Brushy Fork WV
Role: Road Designer

- Designer tasked with performing county route improvement design and the associated hydraulic and hydrologic analysis
- Prepared a HEC-RAS model for a proposed box culvert related to the improvement of the county route
- Performed route improvement design and generated conceptual plans for 2.0 miles of rural road rehabilitation

Gorrell Run Road County Route Improvement, Antero Resources Corporation
Role: Road designer

- Performed conceptual route layout and improvement design for 5.3 miles of road owned by the state of West Virginia
- Performed hydraulic and hydrologic analysis for proposed culvert improvements and replacements
- Generated conceptual and preliminary plan sets and prepared summaries of estimated quantities

Monongah Precast Bridge Replacement, West Virginia Division of Highways, Monongah,WV
Role: Designer
Designer responsible for addressing WVDOH comments in regard to the road alignment relocation, typical section improvements, and steel bridge replacement plans.

Daniel A. Martinez, P.E.

Project Manager I

Piney Ridge Road County Route Improvement, Antero Resources Corporation, Reader, West Virginia
Role: Road Designer

- Designer tasked with performing county route improvement design for 3.7 miles of delapidated county road
- Performed hydraulic analysis for all existing and proposed culverts along the county route improvement
- Prepared conceptual plans and quantities

WV State Route 74 South Bridge Replacement, Antero Resources Corporation, Pennsboro, WV
Role: Road Designer and Structural Designer/Drafter

- Prepared conceptual through construction plans for the replacement of an arch/channel beam bridge with a prestressed adjacent box beam bridge
- Prepared a HEC-RAS model for a pre and post condition assessment for the proposed replacement
- Prepared hydraulic report and supporting documents necessary to permit the replacement which is located in a FEMA Flood Zone
- Designer in charge of preparing complete details, quantities and plans for the bridge replacement which was to utilize staged construction methods
- Designed a temporary detour route which incorporated the staged construction nature of the project
- Designer in charge of preparing complete roadway construction plans and details pertaining to the approach roadway
- Performed a safety inspection of the existing bridge following NBIS methods

Well Pad Site Design

Antero Experience, Antero Resources Corporation, WV
Role: Designer
Mr. Martinez was apart of the design team for the 2 sites listed below. The client's objective for these sites was to have CEC take another consultants design and upgrade the grading and site layout. Mr. Martinez contributed to the following tasks: compilation of base data, upgrading the other consultants plans and designs the CEC standard and applying applicable design standards to the site. CADD grading features included well pads, benches, impoundments and AST pads and spoil piles. List of Antero projects include: Pool Well Pad and North Fork Well Pad

EQT Experience, EQT Production company, Logansport and Pullman, WV
Role: Designer
Mr. Martinez generated the conceptual site design and associated plan developments for the 2 sites listed below. The client's objective for these sites was to place a well site on top of a ridge with challenging topography. Mr. Martinez contributed to the following tasks: Compilation of base data, civil site design plan sets (conceptual), site earthwork and balancing, coordination of environmental impacts for permitting, Storm water conveyance and management. CADD grading features included well pads, benches, impoundments and AST pads and spoil piles. List of EQT projects include: GLO 162 (Marion County) and PUL 98 (Ritchie County

Mountaineer Keystone, LLC Experience, Mountaineer Keystone, LLC, WV
Role: Designer
Mr. Martinez generated the conceptual site design and associated plan developments for the two sites listed below. The client's objective for this site was to place a well site on top of a ridge with challenging topography. Mr. Martinez contributed to the following tasks: Compilation of base data, civil site design plan sets (conceptual), site earthwork and balancing, coordination of environmental impacts for permitting, Storm water conveyance and management. CADD grading features included well pads, benches, impoundments and AST pads and spoil piles. List of Mountaineer Keystone, LLC projects include: Hamilton #2 Well Pad (Barbour County) and PUMA 75 Well Pad (Taylor County)

Daniel A. Martinez, P.E.

Project Manager I

NNE Experience, Northeast Natural Energy, LLC, WV

Role: Designer

Mr. Martinez generated the conceptual site design and associated plan developments for the site listed below. The client's objective for this site was to place a well site on top of a ridge with challenging topography. Mr. Martinez contributed to the following tasks: Compilation of base data, civil site design plan sets (conceptual), site earthwork and balancing, coordination of environmental impacts for permitting, Storm water conveyance and management. CADD grading features included well pads, benches, impoundments and AST pads and spoil piles. List of Mountaineer Keystone, LLC projects include: NNE 822 Well Pad (Monongalia County)

TRAINING

Safety Inspection of In-Service Bridges (FHWA-NHI-130055)

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Timothy A. Denicola, PG, CFM

Project Manager III

12 YEARS OF EXPERIENCE

EDUCATION

M.S., Geology, West Virginia University, 2013

B.S., Chemistry, Clarion University of Pennsylvania, 2006

Mr. Denicola is a project manager whose multi-disciplined background includes expertise in geochemistry, geology, and hydrology. His experience includes mine water remediation, ecosystem restoration, and environmental assessments and remediation. Specific capabilities include soil, surface and groundwater chemical analysis, hydrologic data collection, design of mine water treatment systems, design of stream and wetland restoration, geotechnical soil and rock exploration drilling, construction quality assurance, environmental assessments and remediation, and development of various spill control plans. Mr. Denicola manages projects from conceptual through final completion in collaboration with a qualified team of personnel.

PROJECT EXPERIENCE

Export AMD Assessment and Treatment Plant Design, Westmoreland County, PA
Two mine water discharges near Export, PA, convey a combined 3000 gallons per minute of severely acidic, iron and aluminum contaminated mine water into a watershed having fishery potential. Mr. Denicola completed a historic water quality review, baseline water quality sampling and hydrologic data collection, chemical loading and treatment calculations, site surveying, and developed a conceptual engineering design utilizing a calcium oxide slurry system and solids handling practices. The design includes an innovative approach to working within site constraints while ensuring sufficient carbon dioxide off-gassing, reagent mixing, precipitated solids handling, onsite solids disposal, and simplified operations and maintenance.

Lyons Run AMD Remediation and Mitigation Bank, Westmoreland County, PA
The Lyons Run watershed is severely impaired by acidic, iron and aluminum contaminated mine water. Mr. Denicola completed baseline water quality sampling and hydrologic data collection, remediation design, and development of a mitigation banking prospectus. Mr. Denicola managed site delineations and baseline biological monitoring, high resolution LiDAR topographic UAV flights, geotechnical site assessment, and regulatory components including USACE, PADEP, and local requirements. The project will ultimately utilize a successive alkalinity producing system (SAPS) to neutralize acid, collect precipitated solids, and improve watershed ecological function while generating mitigation banking credits to offset long-term operations and maintenance costs.

Beaver Creek at Auman Road Passive AMD Treatment, Preston County, WV
A tributary to a cold water fishery (CWF) is impacted by acidic, aluminum contaminated water emanating from an abandoned coal surface mine. Mr. Denicola designed two passive mine water treatment systems consisting of flushing limestone beds (FLB), settling ponds, and aerobic polishing wetlands. Each FLB utilized an automatic dosing siphon, large diameter limestone, and trench drain conveyance to reduce loss of

EXPERTISE

Abandoned Mine Drainage (AMD)

AMD Treatment Design

Site Grading and Drainage

Ecosystem Restoration

Mitigation Banking

Stream and Wetland Design

Monitoring Well Installation

Soil Boring Advancement

Rock Coring Exploration

Soil Chemical Sampling

Water Quality Sampling

Aquifer Pumping

Contaminant Tracking

REGISTRATIONS

Professional Geologist

- PA [redacted]

CERTIFICATIONS

Certified Floodplain Manager, Association of State Floodplain Managers

Level I Applied Fluvial Geomorphology, Wildland Hydrology

Level II River Morphology and Applications, Wildland Hydrology

Level III River Assessment and Monitoring, Wildland Hydrology

Level IV River Assessment and Monitoring, Wildland Hydrology

FAA Part 107 Unmanned Aerial Vehicle Pilot License

Advanced AMDtreat Mine Drainage Cost Calculation Software, U.S. Office of Surface Mining Reclamation and Enforcement (15-Hour)

PEC/Safeland Training, 8-Hour Course, ID# PEC [redacted]

substrate porosity and increase alkalinity generation and flushing velocities. Settling ponds utilize perforated stand-pipes to regulate the effluent rate and achieve particle settling velocities. Aerobic wetlands were designed with thick, native, non-invasive grasses, woody shrubs and wetland trees to facilitate final polishing while increasing ecological habitat. Extensive chemical, hydrologic, and volumetric calculations were utilized to ensure optimal cost-effective performance.

Lehigh River Basin Watershed Assessment, Eastern PA*
Mr. Denicola was provided chemical data from approximately two dozen abandoned mine discharges (AMD) in several impaired subwatersheds of the Lehigh River. Utilizing spatial and statistical software, Mr. Denicola prepared an assessment and recommendations report identifying priority AMDs and priority subwatersheds for remediation. Statistical methods utilized univariate multivariate statistical techniques including principal component and hierarchal cluster analysis. Based on geochemical calculations, site-specific treatment options were recommended including associated engineering and construction costs.

Oxbow Mitigation Bank, Ritchie County, WV
The Oxbow Mitigation Bank will restore approximately 26,000 feet and enhance approximately 48,000 feet of heavily degraded stream corridor. The property has been heavily timbered and traversed with access routes resulting in excess sedimentation, disconnected stream channels, and reduced biological diversity. Off road vehicle traffic and the county right-of-ways utilize the stream corridor resulting in substantial geomorphic degradation. Mr. Denicola has managed and completed stream restoration designs, geotechnical rock drilling exploration, oil & gas infrastructure relocations, county right-of-way decommissioning, and contractor coordination to facilitate successful project completion.

Brushy Fork Mitigation Bank, Harrison County, WV
The Brushy Fork Mitigation Bank will restore approximately 48,000 feet of streams and 5.5 acres of wetland. Portions of the property were extensively coal mined and streams will be constructed into poor quality spoil with the potential for acid generation and iron precipitation. Mr. Denicola has conducted extensive chemical and hydrologic data collection to characterize the construction material and has selected various mitigation techniques to prevent negative spoil influences on water quality. A combination of alkaline reagent, organic compost, aerobic wetlands, impermeable liners, and spoil excavation will be utilized to ensure acceptable water quality beneficial to establishment of aquatic habitat post-construction.

Herods Run Passive AMD Treatment Project, Upshur County, WV*
Herods Run is impacted by acidic, iron contaminated water emanating from an abandoned coal surface mine. Mr. Denicola prepared the winning conceptual design, developed the preliminary and final engineering design drawings, and prepared the construction specifications, cost estimates, and bid package. Mr. Denicola prepared permit application packages for the U.S. Army Corps of Engineers (USACE) Regional General for AML permit and WV Department of Natural Resources (WVDNR) Stream Activity permit. Throughout the project Mr. Denicola facilitated open communication between a non-profit watershed association, various landowners, and a private energy company owning easements.

Regulated Mining Property AMD Treatment and Refuse Research Study, Sequatchie County, TN*
An extensively reclaimed, regulated mining property treats acidic groundwater emanating from various locations. Mr. Denicola conducted an assessment of various treatment options ultimately identifying the most cost-effective method of meeting NPDES compliance at several discharge points. In addition, Mr. Denicola is currently completing a treatment test cell study to assess techniques for mitigating acid production in mining refuse, thereby eliminating the need for long-term AMD treatment.

Water Quality Monitoring, Antero Treatment, LLC, Doddridge County, WV
Antero Treatment, LLC, as a requirement of federal, state, and local regulation requires environmental monitoring. Mr. Denicola performed stream and site-specific water quality and hydrologic monitoring in support of company operations. Monitoring included collection of field chemical parameters and laboratory samples for analysis of RCRA and non-RCRA volatile and semi-volatile organic compounds, poly-nuclear aromatic hydrocarbons, phthalate esters, petroleum related hydrocarbons, metals, anions, and radionuclides. Monitoring required analysis of gases including methane and dihydrogen sulfide. Flow data was collected using a USGS Wading Rod with FlowTracker Acoustic Doppler flow meter and the cross-sectional area method.

Soil Quality Monitoring, Antero Resources Corporation, Multi-County, WV
Mr. Denicola routinely performed soil sampling in support of company operations. Sampling adhered to EPA Method 5035A for volatile organic compounds in soil and assessed pre-construction and post-construction soil quality at production facilities.

Timothy A. Denicola, PG, CFM
Project Manager III

Regulatory Compliance, Antero Treatment, LLC., Doddridge County, WV
Antero Treatment, LLC, operates a water treatment facility that requires onsite storage and handling of industry wastewater and regulated reagents. Mr. Denicola became intimately familiar with site-specific processes and oversaw completion of Aboveground Storage Tank (AST) fit-for-service inspections. Mr. Denicola personally developed the Spill Prevention Response Plan (SPRP) and Spill Prevention Control and Countermeasure (SPCC) Plan in conformance with 47 CSR 63 and 40 CFR 112, respectively. Mr. Denicola prepared spill compliance training documentation and administered training to Antero personnel.

Watershed Based Plan and Quality Assurance Protection Plan*
As a responsibility of project management, Mr. Denicola composed a Watershed Based Plan (WBP) and Quality Assurance Protection Plan (QAPP) for approval by the United States Environmental Protection Agency (U.S. EPA). The WBP identifies priority remediation sites to meet compliance with West Virginia Department of Environmental Protection (WVDEP) Total Maximum Daily Loads (TMDL) requirements for the WV 303(d) list of impaired streams. In addition, Mr. Denicola composed a QAPP to ensure that the U.S. EPA-accepted sampling and data handling protocols were being utilized universally across all staff members and sampling events within the watershed.

Brubaker Active AMD Treatment Conceptual Design, Clearfield County, PA*
Mr. Denicola developed the winning conceptual design for active treatment at the abandoned Dean Clay Mine discharge in the Brubaker Run watershed. The design utilized calculations for acid neutralization and sludge production rates. The design included active treatment BMPs, surface water diversion and high flow bypasses, and a proposal for an on-site sludge disposal assessment requiring a geotechnical study of the nearby mine workings.

AMD Assessments and Recommendations,, Buck Mountain #2 and Lausanne Tunnel, Eastern Pennsylvania*
Several passive AMD treatment systems required an assessment and recommendations report to evaluate treatment efficacy. Mr. Denicola conducted chemical and hydrological sampling and completed an assessment of each location including recommendations and associated costs. Development of the recommendations required calculations of acid and metal loads, alkalinity generation and acid neutralization rates, ferrous iron oxidation rate, sludge volume, and BMP sizing for necessary hydrologic retention time.

Kanes Creek South Site #3, Office of Surface Mining (OSM) Watershed Cooperative Agreement (WCAP)
Preston County, WV*
Several acid mine discharges impairing Dills Run, required development of a passive remediation system. Mr. Denicola oversaw the final stages of system design, construction stormwater permitting, and West Virginia Non-Point Source (NPS) 319 and Office of Surface Mining (OSM) Watershed Cooperative Agreement (WCAP) grants management, as well as conducted construction oversight and completion of pre- and post-construction monitoring. The final system ultimately consists of a flushing limestone bed followed by two settling ponds in series. The system is successfully neutralizing all acidity, introducing residual alkalinity, and is removing all metals to analytical minimum detection limits.

AMD Treatment, Broad Top Township, Bedford County, PA*
Various active and passive AMD treatment systems currently operate within Broad Top Township. Mr. Denicola conducted geochemical calculations that directly translated into several passive system designs, conducted chemical and hydrological sampling as part of an assessment and recommendations study, and conducted the post-construction final inspection of the most recently construction AMD treatment system.
Semi-Active AMD Treatment, Sewickley Creek, Brinkerton, Westmoreland County, PA*
The Brinkerton Semi-Active AMD Treatment project was affected by a high volume of alkaline mine water discharge and the existing passive treatment system required refurbishment. Mr. Denicola assisted in redesign of a Maelstrom Oxidizer, pond berm stabilization, incorporation of top flow weirs to allow collection of chemical and hydrological data, and conversion of a smaller acidic mine water collection area into an anoxic limestone drain. Mr. Denicola also performed construction oversight at various stages of project completion.

AMD Remediation, Slabcamp Tributary, Preston County, WV*
Four severe AMDs are impairing a tributary to Slabcamp Run and a 5.4-acre wetland. Mr. Denicola completed pre-construction monitoring, execution of landowner right-of-entry agreements, acquisition of an environmental consulting firm, communication with the U.S. Army Corps of Engineers (USACE) regarding wetland and waterways permitting, communication with the State Historic

Preservation Office (SHPO) to complete a Section 106 review, communication with West Virginia Department of Natural Resources (WVDNR) to complete a National Environmental Policy Act (NEPA) review and composed an Environmental Assessment (EA), communicated with Region VI Planning and Development Council for the necessary consultation letter, and assisted development of a conceptual design.

AMD Remediation, Ingrand Mine, Preston County, WA*
Two severe AMDs impairing Dills Run required development of a passive remediation system. Mr. Denicola oversaw pre-construction monitoring, completion of land purchase through execution of a subdivided land deed, acquisition of an environmental consulting firm, communication with the USACE, SHPO, NEPA, and Region VI, and assisted development of a final design with associated specifications, bid, and contract documents. The passive treatment system utilizes a flushing limestone leach bed, two settling ponds, an anaerobic vertical flow wetland (AVFW), and a polishing wetland and is successfully reducing contaminant loads to Dills Run and Kanes Creek.

Successive Alkalinity Producing System and Active Lime Doser Assessments, Deckers Creek Watershed*
As a responsibility of project management, Mr. Denicola thoroughly audited all existing systems within the Deckers Creek watershed. The most extensive audits were conducted at a successive alkalinity producing system (SAPS) that utilizes flushing limestone leach beds, settling ponds, and an AVFW. Chemical, hydrologic, and redox potential data were collected, and geochemical software was utilized to evaluate the iron reducing capability of the AVFW, which ultimately proved to be highly successful. The SAPS was receiving AMD with pH=2.6 and high ferric iron and aluminum concentrations and was discharging water of circum-neutral pH with metals below minimum detection limits. The AVFW alone displayed a redox potential of -0.093 V and conversion of all ferric iron into the ferrous form. In addition, the Deckers Creek watershed utilizes two active tipping bucket lime dosers for neutralization of severely degrading AMD. Mr. Denicola thoroughly audited both active systems through a series of geochemical sampling and evaluation techniques. The results of the audits substantiated the necessity of future funding for refurbishment.
** Work performed prior to joining CEC*

Kow O. Eshun, P.E.
Vice President

17 YEARS OF EXPERIENCE

EDUCATION

B.S., Civil Engineering, Kwame Nkrumah University of Science and Technology, 2005

M.S., Geotechnical Engineering, The University of Akron, 2013

REGISTRATIONS

Professional Engineer

- TX [redacted]
- KY [redacted]
- MD [redacted]
- WV [redacted]
- PA [redacted]
- VA [redacted]
- OH PE [redacted]
- TN [redacted]

CERTIFICATIONS

Project Management Professional (PMP), Project Management Institute

10-Hour OSHA Construction Safety (Occupational Safety & Health Administration), OSHA

Construction Quality Management for Contractors, United States Army Corps of Engineers

Mr. Eshun has over 17 years of experience and serves as the Geotechnical Lead of the Bridgeport, WV office. He is responsible for overseeing daily operations, project reviews, promoting a safe working environment, staff development, project management and client development. Over the past 7 years Mr. Eshun has served as the Geotechnical principal and pavement engineer on over 80 roadway improvement projects including roadway widening, roadway slip repair projects, and bridge replacement projects across West Virginia. Mr. Eshun has worked on both private and public sectors and has noteworthy experience in the policies and procedures within WVDOT.

PROJECT EXPERIENCE

Charleston Interstate Roadway Lighting Renovation, WVDOH, Charleston Kanawha, WV*
Overall project manager for the geotechnical exploration and design of foundations for the high mast lighting poles for the I-64 in Charleston. Kow managed a 4-week drilling schedule on a busy interstate road working night shift to minimize the interruption to traffic. Project involved the design of over 25 drilled caissons. Managed and coordinated the structural design of the caissons with our subcontractor (Michael Baker Jr., Inc.)

Upshur County Regional Airport, Chapman Technical Group, Buckhannon Upshur, WV
Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses. Prepared both preliminary and final recommendations for earthwork, pavement design for the rehabilitation of the apron and taxiway.

Tabler Station Connector Roadway, WVDOH, Martinsburg Berkeley, WV*
Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses for the proposed roadway. Prepared both preliminary and final recommendations for earthwork, construction, karst treatment and cut/fill slope stability and construction for the proposed roadway

East Burke Bridge Replacement, WVDOH, Martinsburg Berkeley, WV*
Served as staff engineer for this project which consisted of the replacement of the existing bridge. He managed subsurface exploration, laboratory testing and was involved with the preparation of recommendations for the foundation of the bridge abutments

WVDOH Thomas Buford Pugh Bridge, Orders Construction Company, Prince Fayette, WV*
Project involved the replacement of the existing bridge with a new one. Managed the drilling and laboratory testing services for the preinstallation borings. Information from the borings was used to provide design recommendations for the caissons for the foundations

Meathouse Fork Bridge, Thrasher Engineering, New Milton Doddridge County, WV*
Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses. Prepared both preliminary and final recommendations concerning earthwork and the design and construction of foundations for the proposed bridge

Kow O. Eshun, P.E.
Vice President

Power

AEP Amos-Chemical 138 kV Rebuild, American Electric Power, WV*
Managed the geotechnical site exploration for the construction of transmission lines linking two stations. The project consists of using deep foundation (drilled caissons) to support the proposed towers

AEP Union Carbide Station 8, American Electric Power, Institute Kanawha, WV*
Managed the expansion of an existing electric substation at the plant. Managed and coordinated the Electrical Earth Resistivity testing for the ground grid design of the proposed expansion

AEP Proposed Backup Generator Foundation, American Electric Power, Radford Pulaski, VA*
Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses. Prepared recommendations for earthwork, foundation design (shallow foundation) for a generator pad

Beech Ridge Battery Storage, Invenergy, LLC, Rupert Greenbrier County, WV*
Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses. Site was filled with mine spoils and deep dynamic compaction option was recommended to improve soil. Managed and supervised the DDC and post testing work to permit the use of shallow foundations to support the proposed structure.

Oil & Gas

Moore to Revival Pipeline Slip, Antero Resources, Salem Doddridge, WV
Managed the investigation and remedial design of a landslide along a pipeline right of way in Doddridge County, WV. CEC was retained by gas company to develop an approach to stabilize the landslide because it was threatening the integrity of the pipeline. CEC developed an approach to regrade the slope, provide adequate drainage, and construct a toe key to stabilize the slope.

Varner Well Pad Slip, Antero Resources, Salem Doddridge, WV
Managed the investigation and remediation of a landslide at a well site in Doddridge County, West Virginia. CEC was retained by an oil & gas company to investigate a landside that had the potential to slide down into existing ponds downslope of a gas well pad. The landside was occurring along the slope of an active well pad. CEC investigated the landslide and developed an approach to regrade the slope to stabilize the landslide.CEC provided drawings and specifications for the work. CEC is in the process of providing oversight for the slip repair.

Slope Monitoring and Landslide Remediation, Nisource, Southern West Virginia, WV*
Project Engineer for the investigation, monitoring and design of landslide remediation plans for various gas pipelines in southern West Virginia. The projects involved the two stages; designing landslide remediating plans and monitoring stability of slopes using a combination of piezometers and inclinometers. Managed the field investigations, modeled the slopes to develop remediation plans for failed slopes and a ranking system for the management of the risk of slope failures.

Sherwood Plant, MarkWest Energy, Sherwood Doddridge County, WV
Project involved the construction of bridges to provide access for the construction of a substation for the Sherwood Plant. Managed the geotechnical investigations and provided recommendations for the foundation design for the bridge foundations

PEN 40 Well Site, EQT, Pennsboro Ritchie, WV
Managed the geotechnical investigations at the proposed well site and prepared report providing recommendations for site earthwork, cut and fill recommendations and slope stability.

FAW 55, EQT, Monongah Marion, WV
Provide geotechnical engineering services relating to the county road improvement for FAW 55 well pad site. Managed the geotechnical subsurface exploration and provided design recommendations for a soldier pile and lagging along access road to the site.

Kow O. Eshun, P.E.

Vice President

Tonys Bridge Well Pad, Mountaineer Keystone, LLC, Mt Clare Harrison, WV
Managed the geotechnical investigations at the proposed well site and prepared report providing recommendations for site earthwork, cut and fill recommendations and slope stability. Also managed the compaction testing and construction monitoring for the project.

FAW 70, EQT, Monongah Marion, WV
Managed the geotechnical investigations at the proposed well site and prepared report providing recommendations for site earthwork, cut and fill recommendations and slope stability. The project involved building over an abandoned coal mine with overburden of less than 60 feet. Perform subsidence evaluation and development recommendations to reduce the risk of mine subsidence.

Gould Well Pad, XTO Energy, Warrendale Upshur, WV
Managed the geotechnical investigations and construction monitoring for the repair of a landslide affecting a portion of the well pad. Prepared a geotechnical engineering report and landslide repair drawings for construction purposes. Also provided recommendations for the disposal of soil to be excavated from the closure of an existing impoundment at the site.

Sherwood to Majorsville Pipeline ROW Slip Repairs , MarkWest Energy Partners, Littleton Doddridge, Wetzel and Marshall County, WV
Provided design for slips repairs along the pipeline ROW and managed the construction and field testing for the slips remediation. Also provided similar services for the Yankee Camp Pipeline Slip, Twenty Inches Sales Loop Pipeline Slip for MarkWest.

Trent Slip , Antero Resources, New Milton Doddridge County, WV
Managed the investigation and remedial design of a landslide along a pipeline right of way in Doddridge County, WV. Provided oversight and testing services for Antero during the construction stage of the project. Also provided similar services for Gum Run Road Slip Repairs for Antero.

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Project Management Institute

Deep Foundations Institute

PUBLICATIONS

Sett, K., Eshun, K. O., Chao, Y.-C., and Jeremi?, B., "Effect of Uncertain Spatial Variability of Soils on Nonlinear Seismic Site Response Analysis", Geotechnical Special Publication No. 225: State of the Art and Practice in Geotechnical Engineering (Proceedings of Geo-Congress 2012, Oakland, CA, March 25-29), Roman D. Hryciw, Adda Athanasopoulos-Zekkos, and Nazli Yesiller, Eds., pp.2856-2865, 2012

Alexandros Nikellis, Kow O Eshun, Mojtaba Dyanati, David A Roke, Qindan Huang, Akhilesh Chandra, Kallol Sett, "Effect of Site-Specific Soil Nonlinearities and Uncertainties on Ground Motion Intensity Measures and Structural Demand Parameters ", Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards Volume 12, Issue 4, pp.279-296, 2018

L. Jane Hicks
Senior Project Manager

25 YEARS OF EXPERIENCE

EDUCATION

B.S., Mining Engineering, West Virginia University, 1981

M.A., Education, West Virginia University, 1989

Ms. Hicks has more than 25 years of engineering experience, with twenty years of project management experience in geotechnical engineering. Ms. Hicks has conducted geotechnical investigations for a myriad of clients including coal companies, power generation facilities, manufacturing plants, municipalities, engineering companies and developers. She routinely develops scope and fees for small to moderate single discipline projects or for the geotechnical aspect of multi-discipline projects. She manages and coordinates the subsurface exploration and laboratory testing, provides geotechnical engineering analysis and design which includes preparation of design calculations and completion of design submission reports and specifications.

Jane's technical skills include development of full depth remediation for roadways, landslide remediation, deep and shallow foundation recommendations, slope stability analysis, fill slope design, reinforced soil slope design, and development of geotechnical recommendations for difficult sites.

PROJECT EXPERIENCE

Jab Landslide Remediation

ABL South Slope Landslide, Northrop Grumman Innovation Systems, Inc., Rocket Center, WV
Role: Project Manager
Jane coordinated the field work for the subsurface investigation at the site and managed the subsequent landslide remediation design effort.

Potomac Drive Landslide, Northrop Grumman Innovation Systems, Inc., Rocket Center, WV
Role: Project Manager
Jane coordinated the subsurface investigation and reviewed the design calculations..

South Gate Road Slope Stabilization Design, WV National Guard, Preston County, Kingwood, West Virginia
Role: Project Manager
Jane coordinated the subsurface investigation, authored the geotechnical report, and assisted with the subsequent retaining wall design for the landslide impacting South Gate Road.

Oil & Gas

Well Pad and Access Roadway Development, Statoil, Clarington Monroe, OH*
Supervised the drilling operations, reviewed the subsurface information, and developed the geotechnical design reports for multiple sites in Monroe County Ohio. Evaluated slope stabilities, designed reinforced soil slopes as necessary, and prepared bearing capacity and settlement calculations as stipulated by the ODNR.

Well Pad and Access Roadway Development, Statoil, Middlebourne Tyler, Wetzel, WV*
Managed drilling operations, reviewed subsurface information and developed the geotechnical design reports for multiple sites in Tyler and Wetzel counties. Evaluated slope stability, interpreted laboratory test results, and provided specialized earthwork recommendations.

L. Jane Hicks
Senior Project Manager

Well Pad Development, CNX, Stone Energy, EQT, Various Doddridge, Harrison, Monongalia, Tyler, Wetzel, WV*
Managed drilling operations, reviewed subsurface information and developed the geotechnical design reports for multiple sites in Tyler and Wetzel counties. Evaluated slope stability, interpreted laboratory test results, and provided specialized earthwork recommendations.

Coal

Shoemaker Raw Coal Facilities, Consol Energy, Moundsville Marshall, WV*
Ms. Hicks supervised the excavation of test pits and compiled additional subsurface information from a drilling program for a proposed conveyor system to serve the Shoemaker Mine. The conveyor and service roadway were to be constructed on a steep, slide prone hillside. In addition, she investigated old landslides and performed stability analyses for different sections of the conveyor system. She also provided earthwork recommendations and deep foundation recommendations for the proposed bent structures.

Upgrades to Bailey Complex, Consol Energy, Enon, PA*
Ms. Hicks supervised the geotechnical evaluation and provided deep foundation recommendations for proposed raw and clean coal silos and conveyor bent supports. Shallow foundation recommendations were also provided for various support structures.

Higher Education

WVU Baseball Stadium, WVU, Morgantown Monongalia, WV*
Ms. Hicks served as geotechnical consultant during the preliminary planning stage of the WVU Baseball Stadium. The undeveloped site was underlain by several feet of coarse coal refuse. In addition, past deep mining activity was documented in two coal seams beneath the site. As part of the preliminary geotechnical investigation, subsidence and settlement risks were discussed. Jane developed a preliminary deep mine remediation plan and provided estimated fees for implementation of the plan to WVU to aid in planning.

WVU Coliseum Upgrades and Shell Building Additions, WVU, Morgantown Monongalia, WV*
Ms. Hicks planned a subsurface investigation to aid in the design of the planned coliseum upgrades and additions to the existing shell building, and provided a geotechnical report which provided earthwork and foundation recommendations. Portions of the existing structures had damages due to swelling pressures exerted by pyritic sulfur in the underlying black shale. Therefore, the recommendations included provisions to limit potential foundation and slab-on-grade movements.

Local Government

Dorsey Knob Slide, Morgantown BOPARC, Morgantown Monongalia, WV*
Ms. Hicks investigated a slide at Morgantown's Dorsey Knob Park. She developed a subsurface investigation, monitored the drilling operations, and prepared a geotechnical evaluation report. She performed a slope stability analysis and design a new fill embankment. Ms. Hicks provided supervision and QC during construction activities to remediate the slope.

Winding Way Slip Repairs, City of Clarksburg, WV, Clarksburg, West Virginia
Role: Project Manager
CEC planed the subsurface investigation and designed a retaining wall at each of two locations along Winding Way. Jane coordinated the subsurface investigation and reviewed the design calculations for the project.

Wind Power

Mortenson Wind Power, Mortenson, Mount Storm Grant, WV*
Performed the geotechnical evaluations necessary to aid in the design of the proposed 2.0MW turbines on 256 foot towers to be supported by mat foundations. Supervised the field work for eighty-two turbine sites in Grant County near Mount Storm, WV. Supervision included thermal resistivity testing, soil resistivity testing, and excavation of test pits in areas of old surface mine spoil. Supervised laboratory testing services and compiled the design report which included earthwork and foundation recommendations.

Forensic Investigation

Forensic Investigations, West Virginia Board of Risk and Insurance Management, Charleston Various WV Counties, WV
Ms. Hicks has performed forensic investigations for more than fifteen years for properties whose owners filed for assistance through the WVBRIM. The typical project includes historical research to determine the extent of deep mining beneath the property in question, a site visit to document damages, and a report documenting finding and providing recommendations.
** Work performed prior to joining CEC*

Jason H. Littler, P.S.

Principal

26 YEARS OF EXPERIENCE

EDUCATION

A.S., Civil Engineering Technology, West Virginia Institute of Technology, 1995

B.S., Engineering Technology - (Survey Emphasis), West Virginia Institute of Technology, 1996

REGISTRATIONS

Professional Surveyor

- WV [redacted]

Mr. Littler has over 24 years of experience with proven leadership skills, including managing, supervising, and motivating staff to achieve company objectives. Responsibilities have included positions as Roadway Designer and Survey Project Manager. He has performed roadway design, site civil design, drainage computations, construction layout, earthwork volumes, topographical surveys, aerial mapping control surveys, boundary surveys, WVDOH right of way plan development, courthouse research, deed work maps, survey plats, survey descriptions, earthwork volume computations, hydrology computations, WVDOH waste permits, plan preparation, subdivision plats, cell tower surveys, oil and gas landowner exhibits, pipeline as-builts, pipeline alignment sheets, pipeline routing, fine grade computations, and survey field crew management and oversight. He has been in direct charge with as many as 12 survey crews, which all reported to him and were supervised by him for direction and client satisfaction. He has been in professional charge of several boundary surveys ranging in size from small lot and partition surveys to large multi-tract 1000 acre surveys. He has performed numerous ALTA/ASCM land title surveys all throughout West Virginia for various banks, title insurance companies and development companies.

PROJECT EXPERIENCE

Land Development

Sun Mountain Resort, Mount Hope, WV*

This project consisted of the development of approximately 1,000 acres of land located on the west side of US Route 19, north of the exit to Mount Hope in Fayette County, WV. Preliminary plans for the Sun Mountain Resort included an amphitheater, hotel, Gary Player golf course, and a conference facility. Mr. Littler was responsible for all storm drainage and some of the civil design associated with the construction of the complex The construction of this project was not completed.

Northeast Quad Development, Bridgeport, WV*

Mr. Littler was involved in performing all site design for the development of this proposed commercial site, such as producing a detailed set of plans showing all site grading and drainage structures and performing all runoff calculations and sediment pond sizing. He also submitted a National Pollution Discharge Elimination System (NPDES) permit for approval.

Fairskies Development, Buckhannon, WV*

Mr. Littler performed a complete site design to produce the most available land use for this development. He also calculated pre and post runoff curve numbers with discharges, designed all structures accordingly, and provided mapping and placement of a relocated gas line. He also completed and submitted an NPDES permit.

Surveys / Geomatics

WVDOH-Red Jacket Postal Facility ALTA Survey, Mingo County, WV*

Performed an ALTA/ASCM land title survey for this project. Mr. Littler served as Survey Project Manager coordinating all survey crews and managing the daily field collection of data in accordance to ALTA survey procedures along with utility coordination, record research and computations.

Robinson Run Preparation Plant, Harrison County, WV*

Mr. Littler served as Survey Project Manager in charge of surveying on this 2200 TPH coal preparation plant being constructed for Consol Energy. This plant was built to replace the existing plant which had served its time. This project was unique in that the new

prep plant was positioned directly behind the existing plant and the existing conveyor feed line to the plant was to only be extended from the old plant into the new plant. The tolerances on alignment tie in was minimal and final tie-in between the old conveyor feed line and the new conveyor feed line was accomplished in a couple of days with no misalignment problems.

WVDEP Office of Abandoned Mine Lands and Reclamation Northern Mapping Services, northern counties of West Virginia*
Mr. Littler served as Survey Project Manager in charge of surveying and mapping on these individual Projects with the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands. This contract consisted of a 3 year assignment with the WVDEP and involved surveying and mapping services to be used for the design and construction of Abandoned mine lands projects located throughout the northern counties of West Virginia. Currently in the Northern contract, Mr. Littler has been in charge of the successful completion of the mapping for 40 individual projects with a total mapped acreage of 5,800 acres. Mr. Littler was responsible for the client maintenance, field visits, billing, invoicing and oversight for this three year assignment.

WVDEP Office of Abandoned Mine Lands and Reclamation Southern Mapping Services, southern counties of West Virginia*
Mr. Littler served as Survey Project Manager in charge of surveying and mapping on these individual Projects with the West Virginia Department of Environmental Protection, Division of Land Restoration, Office of Abandoned Mine Lands. This contract consisted of a 3 year assignment with the WVDEP and involved surveying and mapping services to be used for the design and construction of Abandoned mine lands projects located throughout the southern counties of West Virginia. Currently in the southern contract, Mr. Littler has been in charge of the successful completion of the mapping for 53 individual projects with a total mapped acreage of 5,000 acres. Mr. Littler was responsible for the client maintenance, field visits, billing, invoicing and oversight for this three year assignment.

Tygart Valley Dam, Grafton, WV*
Served as survey crew chief producing as-built surveying diagrams of piping within the dam. Surveying was conducted inside the dam for all as-built locations. Information was to be used for realignment of new pipes being replaced. Also performed original ground topography surveying for an access road leading to the base of the dam for access of equipment.

Dolphin Communications, Bridgeport, WV*
Mr. Littler performed a complete boundary survey of this tract and produced original ground mapping for the proposed road location to the new KISS FM radio station. Mr. Littler acquired all necessary permits and contracted all state agencies necessary for the construction of this road. He also performed runoff calculations and sized all culverts along the road.

Buckhannon Readiness Center, Capitol Engineering, Buckhannon, West Virginina
Role: Survey Project Manger/surveyor-in-Charge
UAV-based acquisition of LiDAR and georeferenced Photography for the existing conditions as-built mapping for an approximately 16 acre site of the Buckhannon Readiness Center. This project involved the collection of UAV Lidar mapping combined with Conventional/GPS surveying techniques. Responsibility included project management, quality control review of all survey deliverables and survey crew coordination.

** Work performed prior to joining CEC*

PROFESSIONAL AFFILIATIONS

West Virginia Society of Professional Surveyors

Ohio Oil & Gas Association

Travis Adams
Senior Project Manager

24 YEARS OF EXPERIENCE

EDUCATION

B.S., Environmental Science (Emphasis on Water Quality), West Virginia University, 1998

EXPERTISE

Design of Municipal Water and Wastewater Treatment Plants

CERTIFICATIONS

Adult and Pediatric First Aid/CPR/AED, Red Cross

Certified Compaction Technician, West Virginia Department of Transportation

Certified Concrete Field Testing Technician, West Virginia Department of Transportation

Aggregate Certified Technician, West Virginia Department of Transportation

SafeLand USA - Basic Orientation, PEC Safety

Mr. Adams has 23 years of experience in the consulting engineering industry servicing municipal, private, commercial, industrial, Oil and Gas, and government sector clients. His project practice focus includes the detailed engineering design of water and wastewater treatment plants, water distribution systems, and wastewater collection systems. Mr. Adams's engineering experience includes: Detailed engineering design of water distribution pipelines, booster pump stations, water storage tanks, sanitary sewer collection pipelines, force mains, existing water and sewer system rehabilitation, development of CSO LTCP, and sanitary sewer pump station design. He has served as the overall project manager for numerous large municipal water and wastewater treatment plant projects as well as numerous water distribution and wastewater collection system projects, leading a team of professionals to evaluate, design, permit, bid, and construct projects with challenging construction obstacles and complex technical and regulatory requirements. Mr. Adams serves as the primary point of contact with the client and ownership team, regulatory personnel, and external team members throughout the life of the project.

PROJECT EXPERIENCE

Water Resources/Public Utilities

City of Mount Vernon, Ohio Anaerobic Digester Improvements for 5 MGD WWTP, City of Mount Vernon, OH, Knox County, Ohio

Role: Senior Project manager

Project Scope consisted of upgrading and modernizing the two (2) existing anaerobic digesters by removing the existing old Perth® gas mixing systems and installing new Linear Motion (LM) mixers in order to improve mixing and achieve improved volatile solids reduction as well as efficient production of useable biogas. New floating roof/cover systems equipped with biogas storage is proposed to be installed on the existing digesters as well. The project scope also includes the installation of a Huber® Strain press to screen primary sludge prior to entering the digesters in order to reduce trash accumulation consisting mainly of rags and sediment.

Solvay Chemicals, Inc. Willow Island Wastewater Treatment Plant - Ozone Treatment System, Solvay Chemicals, Inc., Willow Island Facility, Belmont, West Virginia

Role: Senior Project manager

Project Scope consisted of the design, bidding, and project management for the addition of an Ozone Treatment process to the existing Willow Island Wastewater Treatment Facility in order to address regulatory issues associated with the facilities NPDES discharge permit to the Ohio River. Solvay was experiencing issues related to toxicity with respect to their treated wastewater discharge to the Ohio River. Improvements to the treatment process consisted of the design and construction of a new Ozone treatment system to address the toxicity problem as well as allow for reduction in the amount of biomass (sludge) produced as a result of the current treatment process. CEC's scope of services included site survey, civil engineering, geotechnical engineering, structural engineering, and construction management services.

Travis Adams
Senior Project Manager

Stonewall Resort Extended Aeration with Tertiary Filtration WWTP Upgrades, Stonewall Resort, Lewis County, West Virginia

Role: Senior Project manager

Project Scope consisted of the planning, design, permitting, bidding, and construction management for improvements to an existing extended aeration WWTP including tertiary filtration that provides year-around wastewater treatment to a major resort facility. Upgrades consisted of the rehabilitation of four (4) existing tertiary sand filters, new aeration piping and diffusers to the extended aeration process, construction of a new post-aeration basin to ensure required dissolved oxygen levels are met, and the construction of a new building for the proposed UV disinfection system, blower and controls room, as well office and lab space for the plant operator.

Town of Terra Alta Water Treatment Plant Upgrade & Water Line Extension to Corinth, Town of Terra Alta, Preston County, WV*

Role: Served as Senior Project Engineer

The project scope consisted of the planning, funding, design, bidding, and construction management of upgrades to the Town's existing Water Treatment Plant and the extension of the Town's potable water distribution system to provide potable water service to approximately 200 new residential customers in Corinth. The WTP upgrades consisted of the design and construction of a new pre-treatment sedimentation basin constructed in a new engineered metal building complete with rapid mixers, chemical feed equipment, pumps, and controls. The waterline extension consisted of the extension of 8", 6", 4", and 2" main waterline, a new 100,000 gallon water storage standpipe, 200 new customer meter settings, and miscellaneous fire hydrants, valves, and trench repair items. The residents of Corinth had approached the Town about providing public water service because the area was previously mined and the majority of the residential water wells in the Corinth area had become polluted with large amounts of iron, sulfur, and manganese making the majority of the ground water in the area un-usable. Due to the presence of previous mining activity impacting the ground water supply, the Engineer was able to secure grant funds from the WVDEP Abandoned Mine Lands (AML) Program which resulted in low water customer user rates making the project very affordable.

New 700 GPM Potable Water Treatment Plant & Water Distribution System Extension to the Hazelton Federal Prison Complex, Preston County, WV, Preston County PSD #4, Preston County, WV*

Role: Served as Project Engineer and Construction Manager

The project scope consisted of the design, permitting, bidding, and construction management of a new 700 GPM Water Treatment Plant and Water Distribution System Extension to serve the Hazelton Federal Prison Complex. Major items included the design and development of source water wells to provide raw water to the new WTP, New 700 GPM Water Filtration Plant, Two (2) new 700 GPM Booster Pump Stations, Three (3) new Water Storage Tanks including a 1 Million Gallon Elevated Water Storage Tank located near the prison complex, and the installation of a new 16" Ductile Iron Waterline installed across country from the new WTP to the Federal Prison Complex.

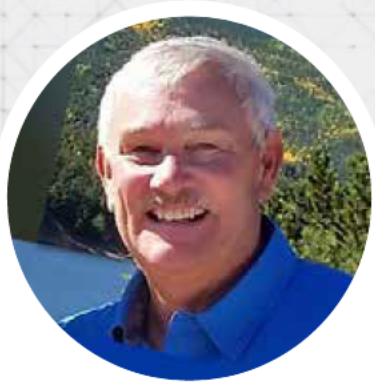
Newell Water Company 1,400 GPM Potable Water Treatment Plant, Newell Water Company, Hancock County, WV*

Role: Served as Senior Project Engineer

Project scope consisted of the design, permitting, bidding, and construction management of a new 1,400 GPM Water Treatment Plant to serve residential, commercial, and one (1) large industrial customer near the city of Newell in Hancock County, WV. This project was funded privately by the Homer Laughlin Fiesta Ware China Company who required a constant supply of high quality potable water for their Fiesta Ware china manufacturing facility. The water treatment process consisted of pressure filtration vessels designed to remove iron and manganese from the incoming raw water supply wells.

Travis W. Adams. "No Surface Discharge Allowed". WVAWWA/WEA 2018 Joint Conference, Canaan Valley Resort, Davis, WV, May 21, 2018

Ben B. Faulkner
Senior Consultant



42 YEARS OF EXPERIENCE

EDUCATION

Certificate, Environmental Studies, WV College of Graduate Studies, 1986

B.S., Biology, Concord University, 1979

EXPERTISE

Experienced wheel loader and track excavator operator

REGISTRATIONS

Licensed Remediation Specialist
- WV [redacted]

CERTIFICATIONS

Funeral Director/Embalmer Apprentice License, West Virgina Board of Funeral Director Association

Approved Person - Surface Mine/Quarry Permit Applications, West Virginia Department of Environmental Protection Mines and Minerals

Certified Blaster, West Virginia Department of Environmental Protection Ofice of Explosives and Blasting

Class 32 Safety Sensitive Personnel, West Virginia Office of Miner's Health, Safety & Training

MSHA Surface Miner, Mine Safety And Health Administration

Hydrogen Sulfide Awareness Training, Safety Unlimited, Inc.

40-Hour OSHA HAZWOPER, Occupational Safety & Health Administration

Environmental Professional, ASTM

Ben Faulkner is experienced in all environmental aspects of mining with over 40 years of experience in environmental matters. He has enjoyed diverse perspectives as environmental permit manager, regulator, preparer, researcher, and consultant. His focus has been on environmental compliance and characterization of mined properties, with 5 years of mine law enforcement and over 35 years as industry manager, academic research associate, and private consultant to the coal, hard rock, and aggregate mining industries. His experience spans working in state mining programs in IL, OH, KY, PA, SC, TN, TX, VA and WV and CERCLA projects in GA, TN and OH. International projects include USVI, Canada, and Wales. He is recognized as a Federal Court expert witness in characterization and chemical/passive treatment of mine drainage as well as land reclamation and aquatic restoration/evaluation of dramatically disturbed lands. He is the only person to serve on both editorial committees of the Office of Surface Mining's Acid Drainage Technical Initiative for coal and metal mining sectors. He is also qualified through ASTM as an Environmental Professional for the purpose of conducting Environmental Site Assessments, Environmental Compliance Audits, and Due Diligence Inquiries. Recent work with USDoE grant took him to over 140 mine sites in 5 states for characterization of drainage treatment and precipitates potential for Rare Earth Elements recovery.

PROJECT EXPERIENCE

Acid Mine Drainage Bond Forfeiture Project, WVDEP, statewide, WV*

1987-2002. When coal operations fail to meet their reclamation and water quality obligations under their environmental permits, the regulatory authority revokes their permits and they forfeit their performance bonds. For 14 years, Mr. Faulkner was the Project Principal for a contract to evaluate the water quality impacts from 890 revoked sites. He either personally sampled or supervised the extended water sampling effort for these sites in 39 counties, and maintained a database of site information and water quality. He represented WVDEP in negotiations with US Department of Interior Office of Surface Mining, Reclamation and Enforcement in developing policy and a program for dealing with water quality at revoked sites, including the characterization and prioritization of the sties, designing and implementing chemical and passive treatment systems, evaluations of the treatment, and policy refinement. Mr. Faulkner worked closely with the Stream Restoration Group and Abandoned Mine Lands (AML) offices of WVDEP to coordinate mitigation efforts and served as special consultant to the WVDEP Director for special projects. He regularly assessed stream impacts for the State by macroinvertebrate monitoring using EPA's Rapid Bioassessment Protocol.

Problematic Active Mine Drainage Inventory, WVDEP, statewide, WV*

1984-2001. Beginning in 1994, the WV Legislature ordered an inventory of problematic drainage at active coal mine sites that threatened the solvency of the Special Reclamation Fund. The fund is generated through taxes on the coal industry and used by WVDEP to address delinquent land reclamation and water quality issues. Mr. Faulkner served as Project Principal under a personal services contract with WVDEP to work closely with reclamation inspectors to sample and inventory raw water sources that required treatment to meet effluent limits. This field work was repeated in 1996, 1998, and 2000 and remains the most comprehensive study of mine water quality in the state. Mr. Faulkner coordinated the identification, sampling, laboratory contracts

and data management, and prepared detailed GIS analysis of the occurrence, source, chemical loading, and treatment technology from the over 600 sources of drainage identified in the study.

AML Problem Area Descriptions - Remediation Projects, former employer, statewide WV & OH*
1987-2015. Mr. Faulkner field reviewed hundreds of Abandoned Mine Lands sites in WV and prepared Problem Area Descriptions for the State of WV. After prioritization and selection of the individual project, Mr. Faulkner prepared mitigation alternatives that addressed land stabilization and water quality improvement. Some of these projects were watershed level and others were focused sites. He worked closely with mining engineers, land surveyors, and other scientists to design detailed reclamation plans and treatment strategies to accomplish these objectives in both WV and OH.

Richard Mine Drainage AML Project, WV Conservation Agency through GAI Consultants, Morgantown Monongalia, WV*
2007-2008. Mr. Faulkner was commissioned by GAI to characterize the Richard Mine Drainage and its effects on Decker's Creek. Faulkner collected samples based on extensive mine mapping reconnaissance, and performed field testing and detailed laboratory bench scale chemical treatment studies at the facilities of REIC Laboratories, Inc. From this, he developed a feasibility study involving several chemical treatment alternatives strategies that could be employed by WVCA and its partners in the AMD treatment project.

Copper Basin (OXY-USA) Project Ducktown, TN *
1997-current. Mr. Faulkner was engaged to lead the initial investigation of water quality at this former copper mining and sulfuric acid manufacturing site. As the project matured to a VOAP under CERCLA, Faulkner provided characterization of the surface water impacts from mine waste and identified remediation strategy at the 30,000-acre site in two watersheds. This project has been championed by both the TN DEC and USEPA as a model for the nation to deal with CERCLA mine sites because of the prompt, dramatic improvement in aesthetics and water quality in the affected watersheds and the recovery of the Ocoee River. Faulkner was the principal designer of passive systems at the project, and participated in the establishment of Biological Performance Goals, Annual Macroinverebrate Monitoring, Stream Habitat Restoration and Wetland efforts and banking, Waste Characterization and Remediation, preparation of Engineering Evaluation/Cost Analysis (EE/CA) and Remedial Investigation documents.

Mettiki Coal Special Projects, Alliance Resource Partners, LP, Mt. Storm Tucker, WV*
2001-2016. Mr. Faulkner has performed special projects for Mettiki since 2001. He conducted surface and groundwater studies on surface properties overlaying a critical subsidence zone. At Mettiki's request, he proposed and designed a surface water diversion and passive treatment system to deal with AML drainage as a mitigation proposal for Mettiki to mitigate proposed activities elsewhere. Faulkner has most recently assisted Mettiki with selenium abatement efforts in-situ by subsurface water management and treatment. He is also evaluating the performance of their existing chemical treatment plant at the Oakland, MD site.

Coalfields Expressway Mine Drainage Issue, Marshall Miller & Associates, Maxie Buckhannon, VA*
2001-2002. Coal bearing strata and abandoned coal refuse areas lay in the path of the proposed Coalfields Expressway. MMA was commissioned by the VA Dept. of Transportation to perform the geotechnical and environmental work for the design of the project. MMA contracted Mr. Faulkner to assist with the chemical stabilization of the coal refuse associated with the project. The work was accomplished to ensure minimal impact to the environment and involved water and soils sampling and Acid Base Accounting analysis.

Mine Complex Management - Permitting & Compliance, Island Creek Coal, Holden Logan, WV*
1985-1988. Mr. Faulkner worked as an in-house consultant for Island Creek Coal. His work involved preparing mining and NPDES permits and ensuring environmental compliance at seven mine complexes in WV and Kentucky. He dealt with prospect, underground, surface and preparation issues and conducted numerous Probable Hydrologic Consequences Studies and prepared all necessary permitting and compliance duties associated with a major corporate mining interest.

Mine Management - Permitting and Environmental Compliance, Leckie Smokeless Coal Co., Anjean Greenbrier, WV*
1983-1990. Mr. Faulkner was the Environmental Compliance Manager for this coal operation on 30,000 acres in a native trout watershed. In addition to managing daily environmental compliance at the many surface preparation/refuse and deep mine operations, he obtained permits and handled public relations. During his tenure, the company was awarded a number of WV Surface Mine & Reclamation Association Reclamation Awards. Mr. Faulkner departed the firm but continued to perform consulting services for them for many years.

Ben B. Faulkner
Senior Consultant

West Virginia DNR Surface Mine Reclamation Inspector, WVDNR, predecessor to WVDoE and WVDEP, statewide, WV*
1979-1984. Mr. Faulkner began his environmental career as a State Mine Inspector in McDowell and Wyoming Counties. There he inspected over 100 deep mine operations, 30 surface mine operations, and a number of coal preparation facilities and refuse areas. He received training in coal refuse site inspection, hydrology and drainage control, and best management practices. He transferred to Greenbrier/Fayette/Nicholas/Summers Counties where he inspected a dozen limestone quarries and over 100 mine sites. In this capacity, he reviewed mine permit applications, oversaw the permit application process, and ensured environmental compliance of the permits when issues. He had statewide responsibilities with special drainage projects

Haile Gold Mine Drainage, Haile Mining, Kinross Gold, Kershaw, SC*
2001-2002. Mr. Faulkner reviewed mine waste management and chemical treatment efforts at this historic mining property and designed passive treatment systems to mitigate constituents of environmental concern. The company implemented the systems which performed satisfactorily for many years until decommissioned upon mine reactivation.

City of Princeton Phase I ESA for The Dean Company, City of Princeton WV, Princeton Mercer, WV
The Dean Company operated a log veneer processing facility in Princeton, WV for decades before moving its operations out-of-state. The 35 acre facility with multiple structures totaling 275,000 square feet was characterized under ASTM standards E1527-13.

WVU Emergency UST, West Virginia University, Beckley Raleigh, WV
WVU purchased the campus of Mountain State University and encountered subsurface UST issues associated with a residence hall. Investigated the issue with Ground Penetrating Radar and subsequent excavation.

V&S Enterprises Phase I ESA, V&S Land, Clarksburg Harrison, WV
V&S leases property with commercial structures for the oil & gas industries. Two properties (one in Clarksburg, WV and another in Bealsville, OH (project 185-865 in 2018) were characterized under ASTM standards.

Mission Coal Assessment, confidential, two mine complexes in West Virginia, two mine complexes in Alabama
Role: Senior Consultant
A mining company sought information in a confidential bid for mining assets in a bankruptcy case. A team of CEC mining professionals was engaged through counsel to review available records and field reviewed the mine properties (totaling several thousand acres and hundreds of permits) for due diligence and environmental compliance. Ben Faulkner reviewed all records and was responsible for field review of all Alabama properties.

Environmental Audits for Real Estate Transactions for Industrial Properties, various, northern and central WV*
Role: Principal Investigator
A consulting firm to which Ben Faulkner sub-contracted was responsible for performing environmental audits for the potential purchaser of hundreds of tracts of land with a history of timbering and coal mining operations. Faulkner led a team that inventoried and characterized over 400 tracts and 10,000 acres in six counties. The process included aerial reconnaissance and videotaping from a helicopter in 1984. Global Positioning Systems (GPS) technology was in its infancy and advance mission planning and post-mission correction was necessary. Faulkner's databases of this and statewide (39 counties) public projects commissioned by WVDEP were selected by WVU faculty for use in early ESRI courses taught at the university.

EIP SWV Stream Mitigation Bank CQA, Ecosystem Investment Partners, Davy McDowell, WV
2016. Served as Senior Consultant when this Stream Restoration Project encountered deep mine drainage that manifested as visible red seepage in the restored stream channel. High iron concentrations and copious staining and precipitation compromised water uses and the macroinvertebrate assemblage. Mr. Faulkner characterized the drainage and outlined/critiqued several proposed alternatives for remedy. He designed and field supervised an alternative involving careful excavation of the deep mine outcrop to divert the pooled mine water into a design diversion away from problematic spoil. He also designed passive treatment systems to mitigate the impacts of several localized drainage influences at the project.

Ben B. Faulkner
Senior Consultant

Environmental Site Assessment for US Food & Drug Administration, AquaBounty Technologies, Lindside Monroe, WV*
2011. Mr. Faulkner prepared this Site Assessment for an aquaculture grow-out facility to satisfy USFDA concerns about genetically modified Atlantic Salmon. The assessment was patterned after an international study involving egg production and culture in Prince Edward Island, Canada and grow-out in Panama, Central America. Mr. Faulkner was responsible for surveying and mapping the facility, and evaluating the potential for native species impact should the fish escape from the facility. He evaluated water quality and fish habitat/assemblage downstream in Rich Creek and in the New River in two states.

WV-10 Evaluation of Reclamation Techniques, WVU Research Corporation, statewide, WV*
1990-1991. Mr. Faulkner worked with three PhD researchers in two states, examining various reclamation techniques and passive treatment technologies and their long-term efficacy. The project involved evaluation of the profitability of re-mining and water quality at re-mining sites.

Austinville, VA Lead Mine Issues, Attorney Client Privileged, Austinville Wythe, VA*
2014-2018. Mr. Faulkner was engaged by the landowner of a US Revolutionary War era mine site to address water quality issues associated with this underground lead/zinc mine. He has characterized the drainage at the site and prepared a Substantive Rationale for the improvement of water quality by appropriate land reclamation and water management. Relying on successful CERCLA projects, Faulkner employed an adaptive management strategy in making specific water management recommendations and assisted professional engineers in designing permanent drainage and remediation structures. He represented the client in Federal District Court (Roanoke, VA) as an Expert Witness on mine drainage and land reclamation. The court ruled for the client.

Columbia Phosphorous Facility, OXY, USA, Glenn Springs Holding, Inc., Columbia Maury, TN*
2008-current. OXY, USA's subsidiary GSHI operated a phosphorous mining and processing facility near Columbia, TN until the 1970's. Mr. Faulkner was commissioned to pioneer the removal of P4 and other contaminants from a wastewater stream from the legacy property. He applied successful principles in constructed treatment wetlands to design two phases of passive systems to successfully remediate the contaminants. He continues to assist GSHI in monitoring the site and development of wildlife habitat for their Wildlife Habitat Council Program.

Greenbrier Streams Biosurvey, Greenbrier Minerals, a subsidiary of Coronado Coal LLC, Anjean Greenbrier, WV*
1984-current. Mr. Faulkner has conducted macroinvertebrate monitoring and stream characterization using EPA's Rapid Bioassessment Protocol and WVSCI methods at over 40 sites within an environmentally sensitive 30,000-acre property. Faulkner is wholly responsible for conducting the field work, works closely with a Society for Freshwater Science qualified taxonomist for identification to the genus level, and prepares the appropriate reports for NPDES and Aquatic Ecosystem Protection Plans. The reports are cumulative for the 30+ year study.
** Work performed prior to joining CEC*

PROFESSIONAL AFFILIATIONS

Society of Environmental Toxicology and Chemistry

West Virginia Mine Drainage Task Force

Society for Freshwater Science

West Virginia Coal Association, Inc.

International Mine Water Association

American Society of Mining and Reclamation

Society for Mining, Metallurgy, and Exploration, Inc.

Air & Waste Management Association

American Society of Reclamation Sciences

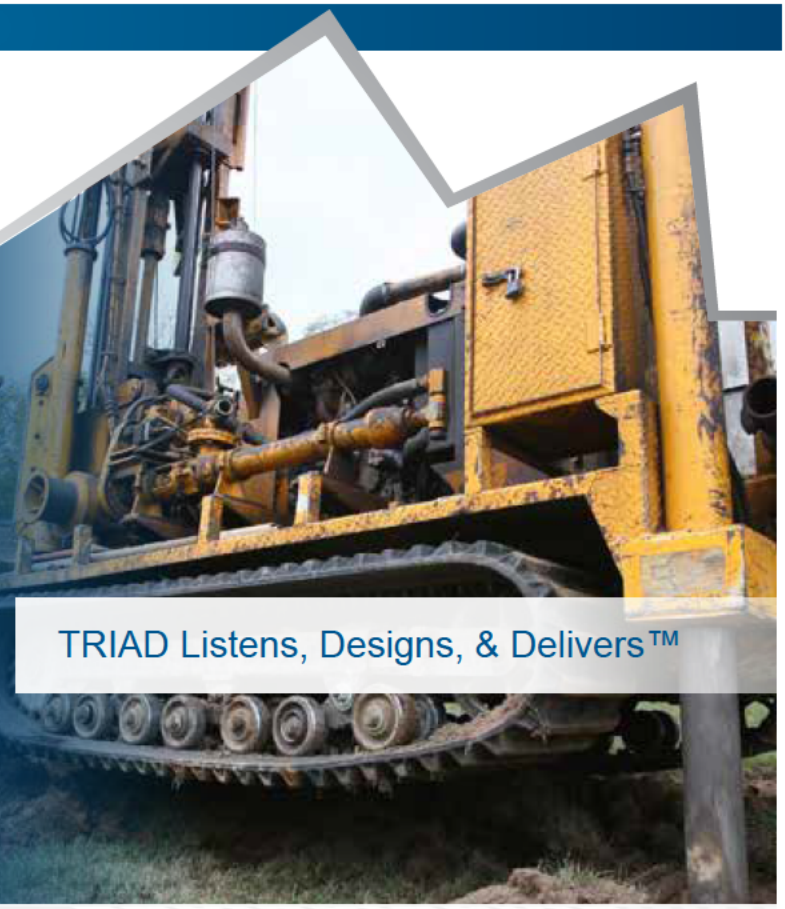
CHAIRMAN OF THE WEST VIRGINIA MINE DRAINAGE TASK FORCE WWW.WVMDTASKFORCE.COM

RECORD OF EXPERT LEGAL TESTIMONY TO 2021-06 AVAILABLE UPON REQUEST

TRIAD ENGINEERING, INC.

DRILLING AND SAMPLING

Triad owns and operates numerous drilling rigs. Our drilling fleet includes truck-mounted, track-mounted, skid-mounted and ATV-mounted rigs. The fleet services our regional footprint as needed. The track-, ATV- and skid-mounted units can access the most difficult types of terrain. Our rigs provide support primarily for in-house geotechnical engineering projects and Triad routinely provides subcontract drilling services for other consultants, private industry, and state, federal or municipal governments. Triad can provide drill crews who are OSHA and MSHA trained when required for a project.



TRIAD Listens, Designs, & Delivers™

DRILLING AND SAMPLING SERVICES

Soil Test Borings with Standard Penetration Testing and Sampling

Rock Coring and Sampling (NQ, NQ2, HQ and PQ size cores)

Auger Borings (3.25, 4.25 and 6.25 inch ID)

Undisturbed Shelby Tube Sampling

Piston Sampling (GUS)

Roller Bit Borings

NW and HW Casing Advancer Drilling

Down Hole Hammer (DHH) **Drilling**

Off Shore (Barge) **Borings**

Coal Exploration Borings

Coal Refuse Drilling and Sampling

Hazardous Waste Sampling

Pre-Installation Core Holes

Borehole Packer Permeability Testing

Piezometer Installation (Standpipe, Vibrating Wire, Pneumatic, Etc.)

Slope Inclinometer Casing Installation

Monitoring Well Installation and Development

Borehole Grouting

Settlement Monitoring System Installation (Sondex Tubes, Extensometers, Etc.)

PLEASE CONTACT TRIAD FOR SERVICES THAT MAY NOT BE LISTED

Appendix D

Related Project Experience

Civil & Environmental Consultants, Inc.

LEMONT EXPANSION FOUNDATION RECOMMENDATIONS AND MINE STABILIZATION

OWNER/CLIENT

Mt. Washington Realty

LOCATION

Pittsburgh, PA

CEC SERVICES

Topographic & Boundary Survey

Subsurface Investigation

Mine Stabilization Plan

Construction Phase Services

OWNER OBJECTIVE

Mt. Washington Realty, the owner of LeMont restaurant located on Grandview Avenue in the Mt. Washington section of the City of Pittsburgh, planned an addition to the restaurant and needed a geotechnical investigation to be performed, as the restaurant is situated on a steep hillside that overlooks the rivers and the City.

CEC APPROACH

CEC was retained by the restaurant owner to perform a geotechnical investigation for the addition to the restaurant. Due to the steep topography, drilling for the addition was challenging. A crane and other specialized equipment was needed to access the location of the addition. The geotechnical investigation also included researching past mining activities in the area.

CEC performed mine map and coal resources data research to investigate the occurrence of deep mining of the Pittsburgh Coal seam below the site. The research confirmed that the coal had been deep mined, and CEC presented recommendations to the owner to reduce the risk of future structural damage to the new addition by grouting the mine. Mine grouting entails drilling 6 to 8 inch-diameter hole to the mine level and pumping a mixture of cement, fly ash and water into the mine to fill the voids and stabilize the mine. The owner elected to undertake a mine stabilization program to reduce the risk of future subsidence, and CEC prepared a mine stabilization plan and specifications for the work, and provided full-time construction monitoring during the project. CEC also performed a site topographic and boundary survey for the project.

Civil & Environmental Consultants, Inc.

MARRIOTT HOTEL MINE GROUTING

OWNER/CLIENT

Marriott International, Inc.

LOCATION

Morgantown, WV

CEC SERVICES

ADA Accessibility Analysis

Erosion & Sedimentation Control/NPDES Permitting

Landscape Architecture/Land Planning

Predevelopment Site Investigations

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Sustainability Planning/Design

Utility Design

NPDES Permitting Support

Low Impact Development Design

Stormwater BMP Design and Inspections

OWNER OBJECTIVE

Marriott International, Inc. is a public, worldwide hospitality corporation with more than 6,500 properties. Marriott was looking to construct a new hotel at the University Town Center in Morgantown, West Virginia. However, since underground coal mining was previously performed beneath the site, Marriott wanted to ensure the site was stable for construction of the new building.

CEC APPROACH

To decrease the risk of mine subsidence, Marriott decided to grout the mine present beneath the site. CEC was selected to provide a mine grouting plan, mine grouting stabilization specifications, and construction quality control services for the grouting operations. CEC's mine grouting plan showed the drilling and grouting locations, and specifications included requirements for the materials, procedures, and testing.

CEC also provided on-site daily inspection of the grouting and testing of the materials used. A summary letter was provided, after the grouting was complete, stating that the project was performed in general accordance with CEC's plans and specifications.

This work was completed in 2015.

Civil & Environmental Consultants, Inc.

GEOTECHNICAL INVESTIGATION FOR FIRST EXCHANGE BANK

OWNER

First Exchange Bank

CLIENT

Omni Associates

LOCATION

Fairmont, WV

CEC SERVICES

Geotechnical Engineering

Deep Mine Stabilization Plan

OWNER OBJECTIVE

First Exchange Bank is a commercial bank with six branch offices in the local region. It was planning a new headquarters building and needed a geotechnical investigation to be performed, as the site is situated on a steeply sloping hillside. First Exchange Bank engaged Omni Associates for the project, and Omni Associates engaged CEC to perform a geotechnical investigation for the proposed structure.

CEC APPROACH

CEC performed a deep mine map and coal research through readily available web sources to investigate the occurrence of deep mining in the area, as nearby structures were known to have had subsidence prevention efforts undertaken prior to construction. Research confirmed that Pittsburgh Coal had outcropped near the front property boundary and that deep mines were present beneath much of the site. CEC planned a boring program to confirm coal seam depths across the site as well as to check for signs of past subsidence events. CEC presented recommendations to First Exchange Bank to reduce the risk of future structural damage to the planned structures (building and retaining walls) by offering an over-excavation and replacement option along with a mine grout option.

First Exchange Bank elected over-excavation and removal for the planned building, as it was to be placed in a location near the coal outcrop where old mine works are shallow. Remaining portions of the site, where the depth to old mines is greater, are to be stabilized by a mine stabilization program. CEC prepared a mine stabilization plan and specifications for the work. The project was constructed and is complete.

Civil & Environmental Consultants, Inc.

BEAVER CREEK PASSIVE AMD TREATMENT

OWNER/CLIENT

Friends of the Cheat, Inc.

LOCATION

Kingwood, WV

CEC SERVICES

Site Grading/Earthwork Analysis

Clean Water Act, Section 401/404 Permitting

Ecosystem Restoration

Water Quality & Sediment Surveys

Wetland AMD Treatment

Wetlands & Waters Delineations

NPDES Permitting Support

Construction Quality Assurance

Erosion & Sediment Control Design and Inspection

Watershed Planning and Restoration

Horizontal & Vertical Control Surveys

Topographic Surveys

Construction Management

GPS/GIS Services

Existing acid-iron conditions of UNT to Beaver Creek.

OWNER OBJECTIVE

Friends of the Cheat, Inc. (FOC) is a non-profit watershed association with the mission to restore, preserve, and promote the outstanding natural qualities of the Cheat Watershed. FOC has been recognized repeatedly over the years for unrelenting dedication and measurable success to improve the Cheat Watershed. FOC works with community stakeholders and technical experts to understand and revitalize brownfields in the lower Cheat River watershed to spur economic growth, protect public health, and promote environmentally-friendly redevelopment. Since 1995, FOC and its partners have implemented 15 acid mine drainage (AMD) treatment systems on abandoned mine lands in the lower Cheat River watershed.

The Beaver Creek AMD project site resides on pre-Surface Mining Control and Reclamation Act (SMCRA) Abandoned Mine Land (AML) of the upper Appalachian plateau. Pre-SMCRA mining had no reclamation requirements and extraction of high sulfur coal has contaminated a local watershed with high acidity, iron, and aluminum concentrations. The contaminants absolutely inhibit establishment of aquatic ecosystem and associated riparian buffer.

CEC APPROACH

The engineering design utilizes an existing, but ecologically barren delineated waterway under the jurisdiction of the United States Army Corps of Engineers (USACE). The bulk of construction will utilize onsite fill material requiring appropriate geotechnical engineering methods. Treatment system components will utilize bell siphons and plumbing requiring tight tolerances on elevations.

CEC completed topographic surveying and biological assessment of the terrestrial and aquatic species at the site. Water quality and hydrologic data was collected specifically to drive the engineering design. Calculations and bench testing were utilized to assess contaminant loads, acid neutralization rates, metal oxidation rates, appropriate reagent tonnages, and best management practice (BMP) sizing. CEC made substantial contributions to surface stabilization and erosion and sediment (E&S) control design including the use of fill compaction keys and turf reinforcement materials.

CEC balanced a combination of treatment efficacy with BMP sizing to determine the optimal cost-benefit scenario. Reduced contaminant loads will elicit establishment of aquatic habitat and benefit a downstream trout fishery. A diverse planting plan of native grasses, hardwoods, and evergreens will stabilize the site and provide healthy riparian ecosystem. Overall the project will work toward achieving Total Maximum Daily Load (TMDL) thresholds, which is a Clean Water Act Title 319 funding objective.

Header Photo: Existing acid-aluminum AMD seep discharging into pond

Civil & Environmental Consultants, Inc.

LOWER DEMPSEY STREAM MITIGATION BANK

OWNER/CLIENT

Ecosystem Investment Partners, LLC

Canaan Valley Institute, Inc.

LOCATION

Logan County, WV

CEC SERVICES

Stream & Wetland Delineation

Stream Assessment and Valuation Metric Computation

Mitigation Prospectus, Banking Instrument, Plan, and Permit

Construction Drawings and Specifications

Construction Oversight

Before Restoration

After Restoration

OWNER OBJECTIVE

The Lower Dempsey Stream Mitigation Bank is located in Logan, West Virginia and demonstrates an innovative approach to restoration of abandoned mine lands and silvicultural practices. With over 700 acres of conservation and 8 miles of streams, Ecosystem Investment Partners, LLC (EIP) sponsored this stream mitigation bank to provide mitigation credits for unavoidable impacts in the Upper and Lower Guyandotte, Coal, Twelvepole, Tug, and Upper and Lower New watersheds. This stream mitigation bank was developed by EIP in partnership with Canaan Valley Institute (CVI) and Civil & Environmental Consultants, Inc. (CEC).

The restoration at Lower Dempsey Stream Mitigation Bank includes: restoration of streams across highwall mine benches; mine access roads built in the stream or its floodplain; failing or "hanging" pipe culverts; and severe erosion and down-cutting. Some project challenges included restoration of steeply sloping headwater streams, reclamation of mined landscapes and valleys, the construction of alluvial fans, and surface and subsurface hydrological improvement.

CEC APPROACH

CEC was retained to provide ecological planning, assessment, plan production, and permitting services. CEC performed the stream and wetland delineations and conducted a jurisdictional determination site visit with the Interagency Review Team (IRT). CEC also performed water quality, benthic macroinvertebrate sampling and habitat scoring of streams to determine baseline conditions for credit computations using the WV Stream and Wetland Valuation Metric. CEC produced construction-level design drawings (with support from CVI) for the mitigation plans with its custom stream design application using AutoCAD® Civil 3D® software, which enables rapid design adjustments to stream grading plans. CEC assisted EIP and CVI in preparing the prospectus, MBI, and mitigation plans and with agency negotiations for the Clean Water Act 404 and 401 permits.

The Lower Dempsey Stream Mitigation Bank was completed in 2016 and is exceeding the goals and objectives of the project.

Civil & Environmental Consultants, Inc.

RECLAMATION OF FOUR BOND FORFEITURE SITES

OWNER/CLIENT

Stantec, Inc.

LOCATION

Northern West Virginia

CEC SERVICES

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Hydrogeology and Groundwater Modeling

Groundwater/Surface Water Remediation Systems

Coal Refuse and Pavement Neutralization

Landowner Negotiations

Topographic Surveys

Calculation Brief

Construction Plans and Specifications

Bid Estimate and Engineer's Cost Estimate

OWNER OBJECTIVE

Stantec, Inc. is an international professional services company in the design and consulting industry that has more than 400 locations in North America and 7 locations internationally. Stantec was seeking assistance with reclamation projects at five bond forfeited sites in northern West Virginia. The sites include three RobLee Coal Company mines, one Energy Marking Company mine and one Buffalo Coal Company mine.

CEC APPROACH

Stantec awarded CEC the contract to develop reclamation plans for the five bond forfeited sites. CEC began the project by obtaining rights-of-entry from 12 different landowners as well as having those landowners sign waivers for access roads and ponds constructed by the mine operations. In addition, CEC was tasked with developing and implementing subsurface investigations, obtaining aerial photography with field control surveys, supplementing aerial photography with onsite field surveys, obtaining soil and refuse analyses, and reclamation design.

CEC performed topographic surveying and generated construction plans and specifications for the five project sites prior to construction. Improvements to 2.5 miles of access roads also had to take place before construction could begin.

The projects involved the design of approximately 1,080,000 cubic yards of balanced earthwork, three mine seals, rock toe drains, and approximately 3,500 feet of subsurface drains. During remediation, approximately 23,500 feet of ditches were constructed, 13 sediment control ponds with outlet structures were re-constructed, and approximately 830 feet of piping was installed. CEC also managed the revegetation of approximately 165 acres.

Three of the sites have been built successfully. The fourth site is currently under construction.

Civil & Environmental Consultants, Inc.

SHINNS RUN PORTAL

OWNER/CLIENT

West Virginia Department
of Environmental Protection

LOCATION

Shinnston, WV

CEC SERVICES

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Hydrogeology and Groundwater Modeling

Groundwater/Surface Water
Remediation Systems

Topographic Surveys

Calculation Brief

Construction Plans and Specifications

Bid Estimate and Engineer's Cost Estimate

OWNER OBJECTIVE

The West Virginia Department of Environmental Protection (WVDEP) was seeking assistance with the reclamation design of the Shinns Run Portals Abandoned Mine Lands located near Shinnston in Harrison County, West Virginia. Past deep mining operations have captured stream flows, impacted Harrison County Route 13, and resulted in the formation of fifteen open, partially collapsed, or totally collapsed mine openings. The deep mined Pittsburgh coal seam is located in close proximity to several area homes, within the right-of-way of Harrison County Route 13, and within four vertical feet of Shinns Run Stream.

CEC APPROACH

CEC was awarded the contract to perform engineering services for the reclamation design of the Shinns Run Portals project. CEC performed field surveying tasks to complement aerial mapping supplied by the WVDEP; developed and implemented a subsurface investigation to quantify and qualify impounded mine pools; and performed a detailed preliminary investigation to include public and private records. The preliminary investigation obtained available deep mine maps, interviewed affected landowners, evaluated construction and drill access, and evaluated sources for materials to be used in reclamation of the project.

The project involved submittal and approval of an Army Corps of Engineers permit and a Hydraulic Engineering Center-River Analysis System (HEC-RAS) hydrologic evaluation of Shinns Run to determine potential flood impacts to residents' homes from installation of low water crossings in order to successfully seal all mine openings. CEC developed plans to seal two streambeds now flowing into the abandoned mine works through subsidence features. In addition, CEC led boring and jacking operations to place a pipe beneath Harrison County Route 13 and provide hydraulic relief to an area home. Approximately 900 linear feet of ditches, 1,000 linear feet of subsurface drains, 450 linear feet of stream bank protection, and 75 feet of roadbed protection were designed by CEC.

CEC performed topographic surveying; generated construction mapping; analyzed soil test results to determine soil amendments for vigorous vegetative growth; performed hydraulic and hydrologic studies and designed ditches and pipes; developed preliminary and final design construction plans and specifications; designed mine pool dewatering operations and mine drainage treatment plans; developed an engineer's cost estimate, bid schedule, and calculation brief; attended initial on-site, preliminary design, and final design meetings.

This project is currently under construction.

Civil & Environmental Consultants, Inc.

ARLINGTON (GAIN) HIGHWALL

OWNER/CLIENT

West Virginia Department of Environmental Protection

LOCATION

Arlington, West Virginia

CEC SERVICES

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Hydrogeology and Groundwater Modeling

Groundwater/Surface Water Remediation Systems

Topographic Surveys

Calculation Brief

Construction Plans and Specifications

Bid Estimate and Engineer's Cost Estimate

OWNER OBJECTIVE

The West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands oversees and facilitates the resolving of public safety issues as mine fires & subsidence, hazardous highwalls, mining-impacted water supplies, open shafts and portals, and other dangers resulting from mining before 1977. Such practices were established by the Surface Mining and Control Act and the creation of the Office of AML&R in 1981. The Office of Surface Mining provides oversight to the Office of AML&R.

The WVDEP, Office of Abandoned Mine Lands requested proposals to provide design services to eliminate falling/entrapment hazard from a previous reclamation operation.

CEC APPROACH

CEC performed a field visit to identify the problem area and make recommendations for elimination of the hazard. CEC provided GPS field survey tasks to map the problem area.

The project involved 570 linear feet of sediment control; 210 feet of ditches; 260 feet of pipes; 130 linear feet of subsurface drains; one manhole; one drop inlet; one headwall; one acre of Revegetation; topographic surveying to generate project mapping; hydraulic studies and design for ditches and pipes; sediment control design; revegetation plan; preliminary and final design; construction plans and specifications; engineers cost estimate, bid schedule, and calculation brief; initial on-site, preliminary design, pre-bid meeting; monthly reports and invoicing.

The project was completed in June 2015.

Civil & Environmental Consultants, Inc.

McALPIN PORTALS

OWNER/CLIENT

West Virginia Department of Environmental Protection

LOCATION

Bridgeport, WV

CEC SERVICES

Geotechnical Engineering

Site Grading/Earthwork Analysis

Slope Stability/Retaining Structure Design

Stormwater Management/BMP Design

Hydrogeology and Groundwater Modeling

Soil/Groundwater Remediation Systems

Topographic Surveys

Calculation Brief

Construction Plans and Specifications

Bid Estimate and Engineer's Cost Estimate

Landslide Remediation

OWNER OBJECTIVE

The McAlpin Portals Abandoned Mine Lands, located near Bridgeport in Harrison County, West Virginia, consisted of approximately 3,400 linear feet of high wall ranging from 30 to 50 feet in height, and ten collapsed mine entries, five of which were discharging acid mine drainage. The uncontrolled mine drainage runs over the hill causing further slope instability and threatening five homes located downhill.

CEC APPROACH

CEC was awarded a contract by the West Virginia Department of Environmental Protection (WVDEP) to perform engineering services for the reclamation design of the abandoned mine lands. CEC designed and implemented a drilling program to define slip limits and testing of spoil properties for slope stability. CEC also supplemented WVDEP mapping with field surveys of important project features such as seep, slip, coal refuse boundaries, and collapsed portal locations.

CEC provided Retaining Wall/Earth Moving Design Alternatives for four slips; reclamation design with 42,000 cubic yards of excavation; 9,200 linear feet of erosion and sediment control; 5,325 linear feet of ditches; 247 linear feet of pipes; 1,317 linear feet of subsurface drains; one manhole; a Gabion Basket Retaining Wall; subsidence hole mitigation; stream bank protection; five mine seals; 23 acres of revegetation; topographic surveying to supplement existing mapping; soil physical properties testing for slope stability; hydraulic studies and design for ditches and pipes; sediment control design; revegetation plan; preliminary and final design; construction plans and specifications; dewatering and AMD Treatment Plan.

This project is currently in the final review/approval stage with the WVDEP and will be let for bid in 2018.

Civil & Environmental Consultants, Inc.

HODGESVILLE (WRIGHT) MINE BLOW-OUT

OWNER/CLIENT

West Virginia Department of Environmental Protection

LOCATION

Hodgesville, WV

CEC SERVICES

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Hydrogeology and Groundwater Modeling

Groundwater/Surface Water Remediation Systems

Topographic Surveys

Calculation Brief

Construction Plans and Specifications

Bid Estimate and Engineer's Cost Estimate

OWNER OBJECTIVE

The West Virginia Department of Environmental Protection (WVDEP), Office of Abandoned Mine Lands oversees and facilitates the resolving of public safety issues as mine fires & subsidence, hazardous highwalls, mining-impacted water supplies, open shafts and portals, and other dangers resulting from mining before 1977. Such practices were established by the Surface Mining and Control Act and the creation of the Office of AML&R in 1981. The Office of Surface Mining provides oversight to the Office of AML&R.

The WVDEP, Office of Abandoned Mine Lands requested proposals to provide design services to mitigate problems associated with an unexpected mine blow-out. This project was deemed an emergency project with a very short time frame for document submittal and awarding of the construction contract. The problem area was located approximately 300 feet behind a residence. On or about March 17, 2015 a mine blowout sent uncontrolled high flows of mine water down an existing ditchline. The uncontrolled flow sent mud, debris, and sediment down the ditchline plugging an existing drop inlet and pipe beneath US Route 20 and submerging US Route 20 beneath 10 inches of water for a period of time causing the road to be closed to traffic. After the initial surge, a 25-foot diameter pool approximately three feet deep developed directly adjacent to US Route 20 with the overflow directed down the east road ditchline. The West Virginia Department of Highways had removed debris from atop the drop inlet and re-established flow though the road pipe. The outlet end of the road pipe is submerged with mud and debris with water conveyed by the road pipe welling-up out of the ground and sheet flowing into nearby ditches.

CEC APPROACH

CEC's reclamation design included 12,500 cubic yards of excavation; two wet mine seals; 1,900 linear feet of sediment control; 531 linear feet of ditches; 116 feet of pipes; 355 linear feet of subsurface drains; one manhole; four acres of revegetation; topographic surveying to develop project mapping; soil testing; hydraulic studies and design for ditches and pipes; sediment control design; revegetation plan; preliminary and final design; construction plans and specifications; dewatering and AMD Treatment Plan; engineers cost estimate, bid schedule, and calculation brief; initial on-site, preliminary design, pre-bid meeting; monthly reports and invoicing.

The project was completed in November 2015.

Civil & Environmental Consultants, Inc.

ARKWRIGHT SLURRY IMPOUNDMENT

OWNER/CLIENT

CONSOL Energy, LLC/CNX Land Resources (Owner)

Mon-View LLC. (Client)

LOCATION

Monongalia County, WV

CEC SERVICES

Cone Penetrometer Testing

Geotechnical Investigation

Settlement Evaluation

Flood Routing

Site Grading Analysis

Closure Plan

Revegetation

Construction Support

OWNER OBJECTIVE

After the closure of the Arkwright mining complex near Morgantown, West Virginia, CONSOL Energy, LLC (CONSOL) opted to develop the site for commercial use. CONSOL contracted CEC to generate a closure plan for an inactive fine coal refuse (FCR) slurry impoundment. FCR is material contained within a slurry generated by the coal preparation process that settles and consolidates over time.

CEC APPROACH

CEC performed a geotechnical investigation and analysis, and provided a closure plan for the inactive FCR slurry impoundment. Piezo-Cone Penetrometer Testing (CPTU) was performed in the impoundment to assess the stability and compressibility of the FCR materials, and piezometers were installed within the impoundment and embankment.

CEC's investigation and analysis of the CPTU data determined that the impoundment and FCR was well-drained and that the FCR materials would compress up to 3.5 feet under the backfill placed during the closure of the impoundment. Consequently, no specialized treatments (such as grouting or wick drains) were needed to stabilize the FCR materials prior to development. Some areas, depending on the postdevelopment use, received fill surcharges to induce settlements prior to development. Settlement monitoring data was collected and analyzed in these areas prior to surcharge removal and final site development activities.

Closure of the impoundment entailed a complete breach of the embankment, and excavation and placement of approximately 1,300,000 cubic yards of fill. At completion, the site provided approximately 40 acres of level development area within the former mine waste disposal facility, of which approximately 30 acres were purchased by Wal-Mart Stores, Inc. for the construction of a new Wal-Mart Supercenter and Sam's Club.

Civil & Environmental Consultants, Inc.

BEECH HOLLOW POWER PROJECT
COAL REFUSE MINING AND RECLAMATION DESIGN AND PERMITTING

OWNER/CLIENT

Champion Processing, Inc.

LOCATION

Robinson Township, Pennsylvania

CEC SERVICES

Geotechnical and Civil Engineering

Coal Refuse Reclamation and Ash Disposal Permitting

Geologic and Hydrogeologic Characterization

OWNER OBJECTIVE

Champion Processing, Inc. required a geotechnical and civil engineering analysis for adding a co-generation power plant facilty to their 600-acre coal refuse disposal facility to reclaim coal refuse for fuel and disposal of ash back on the Champion coal refuse disposal area.

CEC APPROACH

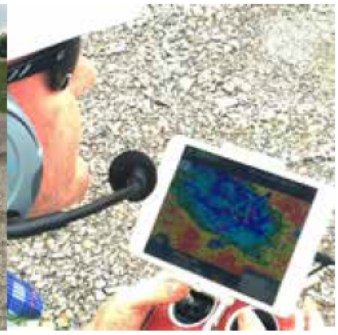
CEC performed detailed geotechnical and civil engineering analyses for a 300 mW co-generation power plant facility, which included coordinating, performing and managing all aspects of the investigation, subsurface exploration, laboratory testing, development of soil and rock design parameters, foundation and construction design recommendations, slope stability analyses, retaining wall design, and road design.

Concurrently, CEC performed the coal refuse disposal permit modification for the existing 600-acre Champion Processing, Inc. (Champion) coal refuse disposal facility. CEC services included the design and permitting of the coal refuse reclamation and ash disposal operations, preparation of all permit application forms, acquisition of all necessary geologic and hydrogeologic data required for the application, developing coal refuse and ash strength properties and performing interim and long-term slope stability analyses, erosion & sedimentation and storm water management facility design, and coordination of the permit submittal and review process with the Pennsylvania Department of Environmental Protection.

Civil & Environmental Consultants, Inc.

Unmanned Aircraft Systems Methane Leak Detection: Optical Gas Imaging

CEC utilizes unmanned aircraft systems (UAS) to conduct site inspections with ground-based and UAS-equipped optical gas imaging (OGI) equipment to find fugitive emissions to meet the U.S. EPA's new source performance standards (NSPS) OOOOa requirements.



CEC'S OPERATION OF UAS

Always at the forefront of cutting-edge technology, CEC obtained a Federal Aviation Administration (FAA) Section 333 Exemption in 2015 and has been implementing UAS into many of its client service offerings ever since. Now operating under the FAA's Part 107 Remote Pilot Certifications, CEC is permitted to operate robotic UAS within the U.S. national airspace system for the purpose of conducting aerial data acquisitions.

The use of UAS enables CEC to conduct data acquisition for project sites in a safe manner. The use of UAS also creates significant economic efficiencies, such as reductions in the number of field personnel required and the time required for both data acquisition and review.

METHANE LEAK DETECTION: OGI

The U.S. EPA recently released significant rulemaking for the oil and gas sector under proposed NSPS Subpart OOOOa, as well as amendments and updates to NSPS Subpart OOOO. The new rule and amendments introduce new compliance requirements and alternatives for leak detection and repair (LDAR) at natural gas processing facilities and other natural gas sites, such as well sites and compressor stations.

Utilizing innovative UAS and ground-based OGI thermal imaging technology, CEC detects fugitive emissions of greenhouse gases (methane, etc.) and other smog-forming volatile organic compounds. Through the marriage of CEC's OGI thermal imaging technology and UAS program, CEC provides quick and safe detection and visualization of fugitive emissions leaks, allowing facility owners and operators to detect and repair leaks quickly, to prevent major damage, and to comply with local and federal regulations.

In compliance with U.S. EPA reporting requirements, CEC's inspection personnel are certified OGI Thermography Technicians.

The language in 60.5397a was written with drone-mounted OGI in mind…Provided the requirements of 60.5397a are met, this is a valid method for fugitive monitoring.
—U.S. EPA, OAQPS, Sectors Policies and Programs Division

TRIAD ENGINEERING, INC.

AML Drilling Projects North

Various, West Virginia

Client:
West Virginia Department of Environmental Protection, Division of Abandoned Mine Lands and Reclamation
Charleston, WV

Project Type:
Drilling

Year Completed:
2019 to Present

Triad Services:

- Subsurface Drilling and Sampling
- Soil and Rock Coring
- Water Level Readings
- Erosion and Sediment Control

Overview

The projects consisted of geotechnical drilling for various AML projects under open ended Contract No. DEP1900000078. The purpose of the drilling is to provide subsurface investigation to aid in the design of the remedial construction of the Abandoned Mine Land and Reclamation projects.

Services provided by Triad included subsurface drilling and sampling including both soil and rock coring. Water level readings were obtained during drilling and within 24 hours of drilling. A brief summary report was provided upon completion of each project consisting of the boring logs and a description of the work performed and the subsurface materials encountered. A partial listing of the projects is as follows:

- Fairmont Gateway Connector Portals
- Bethlehem Gifford Subsidence
- Buffalo Coal Company – Various Permits
- Francis Drainage and Refuse
- Lost Creek Siders Slide
- Rivesville Moore Subsidence
- Steadman AMD
- T&T Fuels Underground Injection
- White Hall Mullins Mine Fire – Phase II

.

Appendix E

Certificates of Authorization

CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

The West Virginia State Board of Registration for Professional Engineers having verified the person in responsible charge is registered in West Virginia as a professional engineer for the noted firm, hereby certifies

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

C02231-00

Engineer in Responsible Charge: STEVEN A. CAIN - WV PE 015264

has complied with section §30-13-17 of the West Virginia Code governing the issuance of a Certificate of Authorization. The Board hereby notifies you of its certification with issuance of this Certification of Authorization for the period of:

January 1, 2022 - December 31, 2023

providing for the practice of engineering services in the State of West Virginia.

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE, PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.

IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA UNDER ITS SEAL, AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT

WEST VIRGINIA BOARD OF PROFESSIONAL SURVEYORS

Certificate of Authorization

Civil & Environmental Consultants, Inc.

Bridgeport, WV

CERTIFICATE OF AUTHORIZATION # 22-5847

This certificate is issued by the West Virginia Board of Professional Surveyors in accordance with W.Va. Code §30-13A-20
The person or organization identified on this certificate is licensed to conduct professional surveying and mapping services in the State of West Virginia for the period

January 13, 2022 through December 31, 2022

This certificate is not transferrable and must be displayed at the office location for which issued.

In witness whereof, I have put my hand, this 13 day of January 22

2022

Sefton R. Stewart, P.S., Chairman
Lantz G. Rankin, P.S., Member

James T. Rayburn, P.S., Secretary
Gary Facemyer, P.E, P.S., Member

Douglas C. McElwee, Esq.

Public Member

Appendix F

Miscellaneous Forms

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DEP22*17

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.

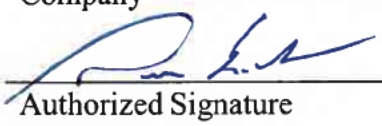
Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

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.

Civil & Environmental Consultants, Inc.
Company


Authorized Signature

06/21/2022
Date

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

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:	Civil & Environmental Consultations, Inc.
Tax ID #:	25-1599565
Address:	120 Genesis Boulevard
City, State, & Zip:	Bridgeport, WV 26330
Phone Number:	304-933-3119
Email Address:	info@cecinc.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, _____, 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.

6-22-2022	[signature]	Vice President
Date	Signature	Title

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) Daniel Martinez, Project Manager

(Printed Name and Title) Daniel Martinez, Project Manager

(Address) 120 Genesis Boulevard, Bridgeport, WV 26330

(Phone Number) / (Fax Number) 304-848-7408

(email address) dmartinez@cecinc.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.

Civil & Environmental Consultants, Inc.
(Company)

(Authorized Signature) (Representative Name, Title)
Dennis Miller, Vice President 06/20/2022
(Printed Name and Title of Authorized Representative) (Date)
304-933-3119
(Phone Number) (Fax Number)
dmiller@cecinc.com
(Email Address)

Civil & Environmental
Consultants, Inc.

120 Genesis Boulevard | Bridgeport, WV 26330 | www.cecinc.com