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## Header

List View

**General Information** [Contact](#) [Default Values](#) [Discount](#) [Document Information](#)

Procurement Folder: 114035

SO Doc Code: CEOI

Procurement Type: Central Contract - Fixed Amt

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Solicitation Description: Expression of Interest Ed Gower  
HW #2 DEP16433 

Total of Header Attachments: 0

Total of All Attachments: 0



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

**State of West Virginia  
 Solicitation Response**

**Proc Folder :** 114035

**Solicitation Description :** Expression of Interest Ed Gower HW #2 DEP16433

**Proc Type :** Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-09-15 13:30:00	SR 0313 ESR09141500000001061	1

**VENDOR**

000000102546  
 STANTEC CONSULTING SERVICES INC

**FOR INFORMATION CONTACT THE BUYER**

Beth Collins  
 (304) 558-2157  
 beth.a.collins@wv.gov

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	EOI Engineering Design Services				

Comm Code	Manufacturer	Specification	Model #
81100000			

**Extended Description :** \*Dates of Service are estimated for bidding purposes only.



Letter of Qualification  
**Design Services for  
Ed Gower HW#2**

**Sealed Bid**  
**Buyer: Beth Collins**  
**Solicitation No: DEP 16433**  
**Bid Opening Date: September 15, 2015**  
**Bid Opening Time: 1:30 PM**  
**Fax Number: 304-367-9403**





**Stantec Consulting Services Inc.**  
111 Elkins Street  
Fairmont WV 26554  
Tel: (304) 367-9401

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September 15, 2015

West Virginia Department of Administration, Purchasing Division  
WVDEP-Office of Abandoned Mine Lands  
2019 Washington Street, East  
Charleston, West Virginia 25305-0130

**Attention: Ms. Beth Collins, Buyer**

Reference: Expression of Interest for the WVDEP Ed Gower HW #2

Dear Ms. Collins,

Stantec is pleased to respond to the Expression of Interest request for the Ed Gower HW #2 Project. Prepared in our expression of interest, you will find a abundance of information that describes in detail our qualifications and experience. The information includes a statement of our qualifications, personnel summaries and project experience to reflect the broader scope of services identified in your EOI.

Stantec has two office locations in West Virginia at Fairmont and Charleston. The Fairmont office is readily available to provide engineering services on Project. Stantec can allot three (3) design teams to this project. Each design team will have necessary support personnel including CADD Operators, Staff Engineers, Survey Crews, and other support personnel to ensure the project is completed within WVDEP timeframes.

Stantec has project specific experience successfully completing projects for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands (WVAML) Program; for the West Virginia Department of Environmental Protection, Office of Special Reclamation; for the Ohio Department of Natural Resources (ODNR) AML Program; and for the West Virginia Conservation Agency. In addition, Stantec has employee project-specific experience completing additional Projects for the WVAML Program.

We are very excited about the opportunity to continue our working relationship with the West Virginia Department of Environmental Protection and look forward to providing engineering services on this most important project. We believe no other company can meet our quality of work, which, when coupled with our experience, allows us to be more efficient and therefore very cost competitive. Our Fairmont Office will respond quickly, effectively, and in the most economical way.

Should any questions arise, or if we can supply additional information or be of further service to you, the Purchasing Division, or the West Virginia Department of Environmental Protection, please contact me anytime at (304) 816-5190.

Respectfully Submitted,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in blue ink, appearing to read "Richard L. Gaines".

Richard L. Gaines, PE  
Project Manager  
Tel: (304) 816-5190  
Richard.Gaines@stantec.com

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Tab 1

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# Stantec Qualifications and Local Capabilities

# Stantec Qualifications

## Design with community in mind

We're active members of the communities we serve. That's why at Stantec, we always *design with community in mind*.

The Stantec community unites more than 14,000 specialists working in over 250 locations. We collaborate across disciplines and industries to make buildings, infrastructure, and energy and resource projects happen. Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of **community**, **creativity**, and **client relationships**.

Since 1954, our local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to go anywhere to meet our clients' needs in more creative and personalized ways. With a long-term commitment to the people and places we serve, Stantec has the unique ability to connect to projects on a personal level and **advance the quality of life in communities** across the globe. Stantec trades on the TSX and the NYSE under the symbol STN.

## More than our services, we are defined by what we stand for, what we believe, and why we do what we do.

By connecting the focus of our work with our deep commitment to community and the unique insight we bring to every project, our promise lets employees, clients, and investors know exactly what we do and what we stand for.

### We put people first

Our people remain at the core of what we do. We want our employees to succeed, however they define it—from accomplishing stimulating, challenging work to becoming leaders in their fields and communities. We are committed to support, foster, and invest in individual success through a culture of opportunity, mentorship, and innovation.

### We do what is right

A company's reputation centers on its integrity. The way we treat our people, clients, and neighbors reflects who we are, what we believe in, and how we do our work. Our commitment to doing things right is evident in everything we do, from professional excellence in our project work to taking responsibility for projects within our communities.

### We are better together

Strong, long-lasting relationships directly impact the success of our employees, clients, projects, and communities. We will reach our full potential as an organization and as trusted advisors for our clients only when we combine our unique strengths and passion.

### We are driven to achieve

Achievement at every level begins and ends with a firm commitment to being the best we can be. We are committed to becoming and remaining a top10 global design firm. It's an ambitious goal, but it's one we take seriously. In order to achieve our Top 10 objective, we recognize our key challenge is to maintain the stability and strength of our local relationships while balancing the management of growth projections.



# 14,000+

specialists working across disciplines and industries to make buildings, infrastructure, and energy and resource projects happen.

# Local Capabilities

The West Virginia offices of Stantec have approximately 35 employees combined. We believe we have the required professionals to meet your needs here in West Virginia. However, at Stantec we also have the experience of over 14,000 professionals available as well.



## WV Offices

- Fairmont
- Charleston

Stantec has project specific experience successfully completing projects for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands ( WVAML ) Program; for the West Virginia Department of Environmental Protection, Office of Special Reclamation; for the Ohio Department of Natural Resources (ODNR) AML Program; and for the West Virginia Conservation Agency. In addition, Stantec has employee project-specific experience completing additional Projects for the WVAML Program. Our AML project experience includes surveying and mapping; subsurface investigations; groundwater and surface water testing and analyses; wet mine seals and modified wet mine seals with bat gates design; vertical shaft cap design; mass balanced earthwork quantities; structure demolition and removal plans; site drainage design including hydrologic and hydraulic studies for bridges, natural stream design; channels, ditches, pipes and box culverts; civil site design; sediment control; and revegetation plans as well as construction plans and specifications. Some of our projects also involved passive acid mine drainage designs ranging from simple limestone beds to complex interactive systems that boost AMD pH to precipitate metals, settle and filter dissolved metals, and polish effluent water with alkalinity prior to release of near neutral waters from the project area. In addition, Stantec designed the first active alkaline treatment system for the State of West Virginia (Special Reclamation).

The Fairmont office is also proud to offer these additional services:

Design Services: Highway, Bridge, Water & Wastewater (Treatment & Distribution: Water; Collection: Sewer), Sidewalks, Site work

Materials Testing Lab: Concrete, Soils, Asphalt

Construction Services: Water & Sewer, Coatings (bridge & tanks), Bridge- in service bridge inspection, Highway- grade & drain, Highway- Bridge, Asbestos inspection

Survey: Boundary, TOPO, Gas Transmission Line Work, GPS

Tab 2

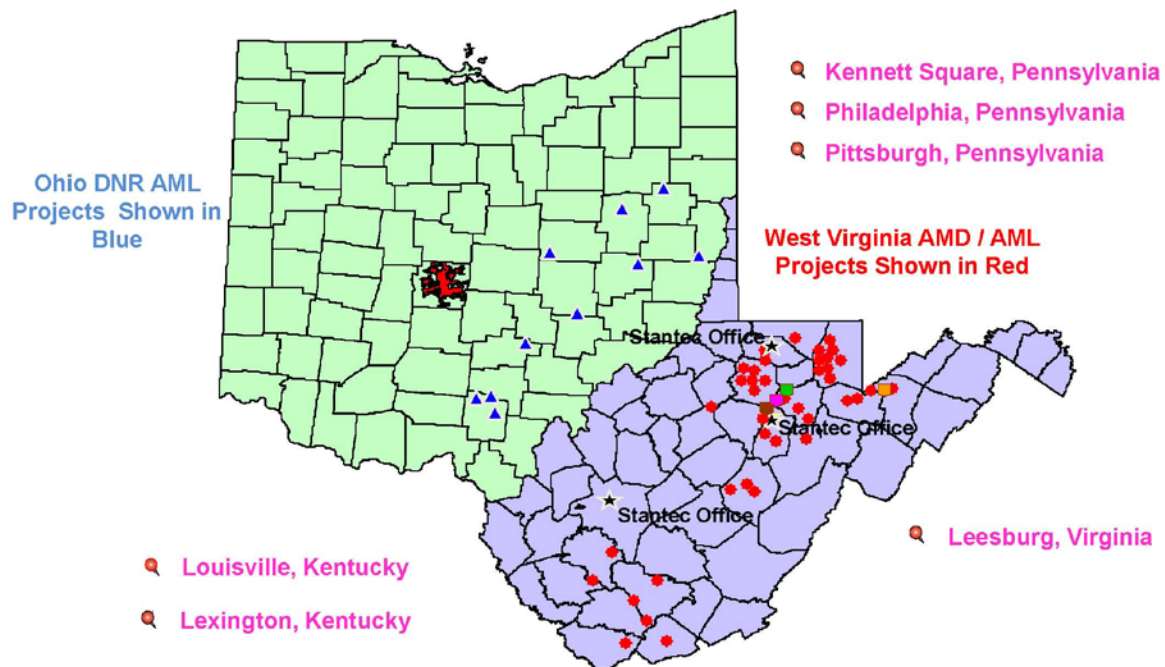
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## Similar Experience

## Similar Experience

The map below shows the locations of some of our AML projects on which Stantec was the prime consultant for West Virginia Department of Environmental Protection and Ohio Division of Natural Resources. The pages following this one show our experience more in depth.

### Stantec AML Project Locations





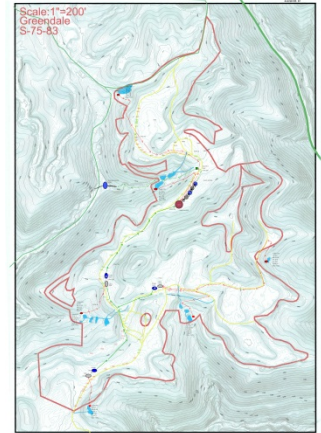
The table below shows some of Stantec's regrading, drainage and mine seal qualifications.

<u>PROJECT NAME</u>	<u>MINE SEALS/ BAT GATES</u>	<u>REGRAIDING</u>	<u>DRAINAGE CONVEYANCES</u>
Tub Run Highwall and Refuse Phase II	4	307,000 CY	11,450 LF
Tub Run Highwall and Refuse Phase I	0	265,000 CY	9,805 LF
Greenbrier Hollow Refuse	3	51,500 CY	1,011 LF
Pageton (Lambert) Portals	24	60,000 CY	829 LF
Birds Creek Number Four	4/4	34,600 CY	5,860 LF
Church Creek / Manown Highwall	21 / 2	220,400 CY	14,882 LF
Howesville Sites	11 / 4	63,000 CY	5,676 LF
Sandy Run Highwall and Portals	6	47,200 CY	4,148 LF
Hampton Number Four Maintenance		25,000CY	2,927 LF
Racine (Bradshaw) Portals	8 / 8	2,500 CY	1,062 LF
Price Hill Airshaft and Buildings	2	1,300 CY	174 LF
Weaver Portals and Highwall I & II	20	97,200 CY	7,006 LF
Nixon Run AMD	1 / 1	1,800 CY	841 LF
Old Bridgeport Hill, Phase II	4	8,800 CY	1,400 LF
Francis Drainage and Refuse	15	163,000 CY	9,000 LF
Thomas (Euclid Avenue) Subsidence	3	153,500 CY	6,500 LF

## Greendale Coals, Inc

Clay and Nicholas Counties, West Virginia

The Greendale Coal Project is located in Clay and Nicholas Counties near Clay, West Virginia. The site is the location of a previous surface coal mine which has been reclaimed, however; there are several discharge points from the site. The discharge is not in compliance with the current NPDES permit for the site. This project involves the surveying, sampling, design, preparation of construction drawings, specifications, permit applications, engineer's cost estimate, contractor's bid sheet, pre-bid and pre-construction conferences, construction inspection, reality work and construction inspection. The scope of the project is the construction of a water treatment and conveyance system to treat discharge from nine (9) known groundwater outlet points to insure discharge is in compliance with the NPDES permit. The treatment will be accomplished using both active and passive treatment techniques in an effort to make the system as easy to operate as possible while maintaining the lowest possible operation and maintenance costs.



## Tub Run Highwall and Refuse Phase II

Tucker County, West Virginia

Stantec was contracted by the WVDEP to provide reclamation of 12,500 Linear Feet of Highwall with 307,000 C.Yds. of balanced earthwork; refuse regrading and soiling; revegetation of 87.0 Acres, 27.0 Acres on Forest Service; drainage: hydrologic and hydraulic studies for design of eighteen ditches (11,450 LF), four (4) wet mine seals; and surveying and mapping. Services also included subsurface investigation (12 holes, 1 Piezometer Set); clearing and grubbing of 87.0 Acres and 27.0 acres on forest service; surface and ground water testing and reporting; Debris Removal Plan; subsurface drain; access road design and improvement; sediment control design; construction plans and specifications; engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.



## Tub Run Highwall and Refuse Phase I

Tucker County, West Virginia



Stantec was contracted by the WVDEP to provide reclamation of 10,000 LF of highwall with 265,000 C.Yds. of balanced earthwork; refuse regrading and soiling; revegetation of 74.0 Acres; drainage: hydrologic and hydraulic studies for design of nine ditches (9,805 LF); stream bank protection; five pipes (244 LF); 8-Foot by 8-Foot box culvert, and surveying and mapping. Services also included: subsurface investigation (15 holes); clearing and grubbing of 74 Acres; surface and ground water testing and reporting; debris removal plan; subsurface drain; access road design and improvement; sediment control design; construction plans and specifications; engineers cost estimate, bid

schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.

## Greenbrier Hollow Refuse

McDowell County, West Virginia

Stantec was selected by the WVDEP to provide reclamation of Cast-Over-The-Hill refuse pile and mine seal reclamation totaling 51,500 CYds of balanced earthwork; refuse regrading and soiling; revegetation of 8.0 Acres; drainage: hydrologic and hydraulic studies for design of six ditches (1,011 LF); two manholes; three pipes (open-cutting McDowell County Route 17/10); three wet mine seals; and surveying and mapping. Services also included: utility relocations and coordination, clearing and grubbing of 8 Acres; surface and groundwater testing and reporting; mine dewatering and treatment plan; debris removal plan; subsurface drain; access road design and improvement; sediment control design; construction plans and specifications; engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.



## Pageon (Lambert) Portals

McDowell County, West Virginia

Stantec was selected to provide the WVDEP with reclamation of Cast-Over-The-Hill refuse pile and mine seal reclamation totaling 60,000 CYds of balanced earthwork; refuse regrading and soiling; revegetation of 24 Acres; drainage: hydrologic and hydraulic studies for design of four ditches (829 LF); stream bank protection; 1 pipe; and seventeen splash pads; twenty three wet mine seals; one dry seal, and surveying and mapping. Services also included: utility coordination; clearing and grubbing of 24 acres; surface and groundwater testing and reporting; mine dewatering and treatment plan; debris removal plan; subsurface drain; access road design and improvement; sediment control design; construction plans and specifications; engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.



## Birds Creek #4

Preston County, West Virginia



Stantec was selected by the WVDEP to provide reclamation of a 4,300 LF highwall with 34,500 CYds of balanced earthwork; refuse regrading and soiling; revegetation of 28 acres; drainage: hydrologic and hydraulic studies for design of ten ditches (5,860 LF) and one pipe; four wet mine seals; four bat gate installations, and surveying and mapping. Services also included: subsurface geological investigation (5 piezometers installed); clearing and grubbing of 28 acres; surface and groundwater testing and reporting; mine dewatering and treatment plan; debris removal plan; subsurface drain; access road design and improvement; sediment control design; construction plans and specifications;

engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.



## Church Creek/Manown Highwall

Preston County, West Virginia

Stantec was contracted by the WVDEP to provide reclamation of a 15,500 LF highwall with 220,400 C.Yds of balanced earthwork; refuse regrading and soiling; reforestation of 8 acres; revegetation of 63 Acres; drainage: hydrologic and hydraulic studies and design of thirty three ditches (14,882 LF) and two pipes; twenty one wet mine seals; two bat gate installations; one dry mine seal, and surveying and mapping. Other services included: subsurface geological investigation (6 piezometers installed); clearing and grubbing of 71 acres; surface and ground water testing and reporting; mine dewatering and treatment plan; debris removal plan; subsurface drains; access road design and improvement; sediment control design; construction plans and specifications; engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.



## Howesville Sites and Sandy Run Highwall and Portals

Preston County, West Virginia

Stantec was selected by the WVDEP to provide reclamation of 5,900 LF highwall with 110,200 C. Yds of balanced earthwork; refuse regrading and soiling; 52 acres of revegetation; drainage: hydrologic and hydraulic studies and design of thirty two ditches (9,824 LF) and five pipes; seventeen wet mine seals; four bat gate installations; and surveying and mapping. Services also included subsurface geological investigation (5 piezometers installed); clearing and grubbing of 52 acres; surface and ground water testing and reporting; mine dewatering and treatment plan; debris removal plan; stream bank protection; subsurface drains; access road design and improvement; sediment control design; construction plans and specifications; engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.



## Weaver Portals and Highwall, Phase I and II

Randolph County, West Virginia



Stantec was selected by the WVDEP to provide reclamation of a 4,200 LF highwall with 97,200 cubic yards of balanced earthwork; refuse regrading and soiling; 35 acres of revegetation; drainage: hydrologic and hydraulic studies and design of twenty five ditches (4,148 LF) and ten pipes; twenty wet mine seals including modified seals; and surveying and mapping. Services also included subsurface geological investigation (6 piezometers installed); clearing and grubbing of 35 acres; ACOE Permit; sediment control plan; surface and ground water testing and reporting; mine dewatering and treatment plan; six AMD passive treatment limestone beds; subsurface drains and manholes; access road design and improvement; debris removal plan; sediment control design; construction plans and specifications; engineers cost estimate, bid schedule and calculation brief; initial on-site meeting, preliminary design, pre-bid and pre-construction meetings; and monthly reports and invoicing.

## Abandoned Underground Mine Inventory and Risk Assessment Statewide Database Population Various Counties, Ohio

Stantec performed mine inventory and risk assessment of state roadways underlain by abandoned underground mines.

The Ohio Department of Transportation (ODOT) Office of Geotechnical Engineering developed the Abandoned Underground Mine Inventory and Risk Assessment (AUMIRA) process to prioritize sites with regard to the potential threat to public safety and need for a more detailed investigation, monitoring or remediation. Stantec was selected to populate the AUMIRA database for Districts 3, 8, 10 and 11, which totaled approximately 675 sites. Sites were identified by overlaying Ohio Department of Natural Resources (ODNR) abandoned mine mapping on state roadway mapping.



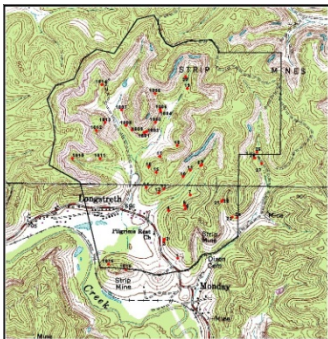
Prior to field work, Stantec reviewed information sources, such as available mapping, historical information, roadway and right-of-way plans, previous subsurface investigations and maintenance records. The information gathered included locations of mapped mine openings, elevation of the mine, overburden composition, coal seam thickness, traffic volumes and hydrogeologic setting.

Stantec's field team consisting of four engineers and geologists, performed a reconnaissance of each site identifying features indicating past underground mining activity, such as surface deformations, sinkholes, seeps, acid mine drainage, drift and slope entries, and vertical mine shafts. Handheld GPS units were used to collect locations of these points. Digital photographs were collected of the mining features.

The AUMIRA database was populated and a score was assigned to each site indicating the potential for subsidence. Stantec prepared cost estimates for remediation for the ten highest ranking sites in each county.

## Wayne National Forest Abandoned and Inactive Mine Lands

Athens, Ohio



The project site is situated in east central Ohio within the boundaries of the Athens District of the Wayne National Forest. Numerous areas within the forest have been disturbed by surface and underground coal mining operations which did not include proper reclamation measures.

The objective of the project was to identify abandoned and inactive coal mine sites, their associated features, collect required field data, prepare a database and merge it with the database of the Ironton Ranger District of the forest.

Efforts were initially focused within the Monday Creek Watershed. Additional inventory followed in the Sunday and Raccoon Creek Watersheds. The Abandoned and Inactive Mine (AIM) search and discovery focused on areas with known underground mines, and areas with a combination of known underground and strip mines. U.S. Forestry Service prioritized areas for inventory based on ODNR-Division of Geologic Survey underground mine maps, and underground mine locations known to Forest Service personnel. The work encompassed a total area of 31,000 acres.

Stantec provided two-person teams to perform discovery and field inventory work by walking up drains (hollows) and along hillside elevation contours of known coal seams and benches in specified areas. Data was collected in accordance with the "Wayne National Forest AIM Data Dictionary". The data dictionary was installed into a GPS field data recorder, which was also used to store the position of the different AIM features. GPS-obtained location information was differentially corrected by downloading base station data from an internet web site.

Any pond, seep or stream encountered along the selected drains was subjected to water quality monitoring. The monitoring was accomplished by using portable water quality instruments that measured multiple parameters simultaneously including: temperature, pH, conductivity, dissolved oxygen, oxygen reduction potential and turbidity.

## Upper Coldwater Fork Stream Restoration

Martin County, Kentucky



Following initial clean-up efforts of a coal slurry release, Stantec was retained to lead the stream and ecosystem rehabilitation of nearly 6,000 LF of Upper Coldwater Fork in Eastern Kentucky.

In October 2000 a coal slurry impoundment breached into underlying mineworks, releasing more than 250 million gallons of slurry into the Coldwater Fork and Wolf Creek valleys. Called one of the worst mining disasters on the environment by the EPA, clean-up efforts were begun immediately for the Coldwater Fork and Wolf Creek(s) and continued for several months. During clean-up efforts, portions of Coldwater Fork were realigned as up to eight feet of debris and slurry was removed. Following this initial clean-up, the channel was unstable and the riparian and aquatic habitats destroyed.

Stantec was contracted to lead the stream and ecosystem rehabilitation on Upper Coldwater Fork. The scope of work included collection of field data on impacted reaches and reference reaches; preparation of natural channel design stream restoration plans; construction assistance, and post-construction monitoring. The urgency of the project required a streamlined approach to design, permitting and construction. Stantec worked closely with the owner, regulatory agencies, and property owners to meet critical timelines and maximize construction and planting seasons. Construction was completed within five months.

Nearly 6,000 LF of stream was designed, consisting of a C-type stream with step pools, cross vanes, and j-hooks; bioengineering treatments such as live staking were utilized throughout the project. Three years of post-construction monitoring have been completed with results demonstrating excellent recovery from both a geomorphology perspective as well as a biological function perspective.

## Oxford Mine Mitigation Monitoring

Multiple Sites, Ohio

Stantec monitored various mitigation sites resulting from impacts by coal mining activities. Impacts to resources included streams and wetlands which were “waters of the United States” (WOUS). Mitigation measures included stream reclamation and relocation and wetland creation. Mitigation streams and wetlands were monitored to ensure the restoration of pre-mining ecological functions.



Stantec provided services for 16 mine sites ranging from 18 to 775 acres in Belmont, Coshocton, Guernsey, Harrison, Jefferson, Muskingum, Perry, and Tuscarawas counties. Mitigation sites were assessed according to performance criteria specified in the Coal Mining and Reclamation Permit, Section 404 Permit, and the 401 Water Quality Certification. Streams and wetlands were assessed using standard procedures outlined in Ohio EPA's Qualitative Habitat Evaluation Index (QHEI) and Ohio Rapid Assessment Method for Wetlands (ORAM).

Project highlights included field investigations and reporting. Field investigations included an evaluation of the physical characteristics and function of constructed wetlands and streams. Monitoring was performed for a total of 70 streams and 23 wetlands. Sites are to be monitored for at least five years and are in various stages of monitoring. A report is prepared and submitted to the Ohio EPA and U.S. Army Corps of Engineers for approval at the end of each monitoring year.



## Little Coal River Stream Restoration

Boone and Lincoln Counties, West Virginia



Stantec was contracted to provide restoration design and construction services of a approximately 16.5 miles along the Little Coal River in southern West Virginia. The project was funded through the West Virginia Department of Environmental Protection to mitigate for coal mining impacts in the Appalachian Plateau.

Stantec worked with the West Virginia Conservation Agency, Patriot Coal Company, Green Rivers LLC, and North State Environmental through multiple phases of the project. Stantec completed all phases of the design including a 16.5 mile geomorphic assessment and survey.

As part of this restoration work, fish and habitat surveys were conducted to determine appropriate design parameters and construction techniques and establish baseline conditions for fish populations prior to construction. Deep water habitats were sampled from a boat using a Smith-Root GPP 5.0 electrofisher. Wadeable habitats were sampled with a Smith-Root LR24 backpack electrofisher and a 6-foot by 10-foot seine. Surveyors attempted to equalize fishing efforts between gear types and macrohabitats by shocking for a approximately 200 seconds. Survey areas were stratified by observable macrohabitat types and by position on the channel margin or in mid-channel. Within the discrete limits of each macrohabitat type, surveyors measured depth and velocity at three physical habitat stations using a Marsh-McBirney FloMate. Surveyors also visually assessed the proportion of substrates present at these stations using a modified Wentworth scale and visually assessed cover type and availability.

The first 1.5 miles of restoration was constructed in the winter of 2011/2012 in which Stantec provided construction support. The remaining 15 mile restoration design will be completed in the summer of 2012 and construction for the 15 miles will be implemented in the fall of 2012.

## Little Coal Fish and Habitat Surveys

Boone & Lincoln Counties, West Virginia

Stantec was contracted by the West Virginia Conservation Agency (WVCA), Guyan District to assess conditions and develop restoration designs for approximately 15 miles of the Little Coal River in Boone and Lincoln Counties, West Virginia. The objectives of this study were to complete fish and habitat surveys to aid in determining appropriate design parameters and construction techniques, and establish baseline conditions for fish populations prior to construction.

A total of 6 sites and 29 macrohabitats were surveyed for fish in the fall of 2011. Deep water habitats were sampled from a boat using a Smith-Root GPP 5.0 electrofisher and wadeable habitats were sampled with a Smith-Root LR24 backpack electrofisher and a 6-foot x 10-foot seine. Physical habitat was measured and visually assessed at 86 stations within the macrohabitats. Within the discrete limits of each macrohabitat type, surveyors measured depth and velocity at three physical habitat stations using a Marsh-McBirney FloMate. Surveyors also visually assessed the proportion of substrates present at these stations using a modified Wentworth scale and visually assessed cover type and availability.

Runs, pools, eddies, and backwaters were dominated by fine grained substrates (i.e., silt and sand). Sand was observed at 73 of 86 locations, and some form of cover was observed in 55 of 86 physical habitat stations. Over 500 fish comprising 29 species were collected in the sampling effort. Species density and richness was highest in coarse-grained substrates. Fish were most frequently associated with large wood and boulder cover types. Fish densities were high in mid-channel units sampled with backpack electrofisher but species per unit effort was low suggesting the presence of a small number of specialized species. Species richness was highest in the margin habitats and fourteen of the 29 species collected were found exclusively in margin habitats.

These observations informed restoration design and implementation regarding substrate composition, instream cover, availability of off-channel habitats, glide dimensions, riffle slopes, and pool dimensions.

Tab 3

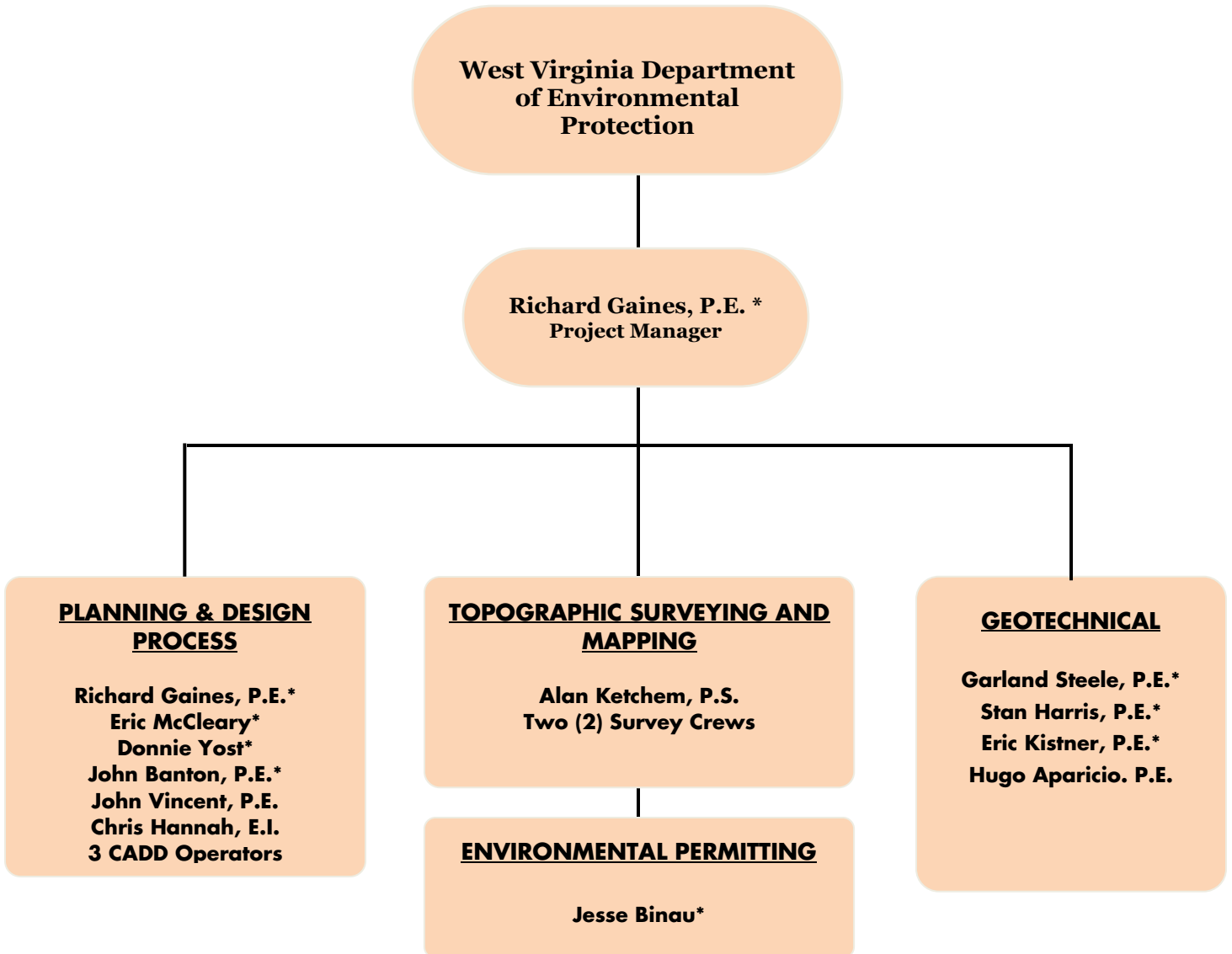
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Project Team



# Project Team

Below is our proposed project team for the completion of the Project. Resumes are included on the following pages.



\*Resumes Included

## Richard Gaines, P.E.

### Project Manager

Mr. Gaines has 28 years of experience in project management and civil engineering related to oil and gas development, land development, water systems and treatment, and sanitary sewer collection and treatment projects. His design experience includes layout, grading, drainage, erosion control and permitting for road entrances, access roads, well pads, pits and impoundments for multiple well pads and developments. He is currently a Senior Civil Engineer in the Fairmont office West Virginia of Stantec.

### EDUCATION

B.S./Civil Engineering/Fairmont State College

A.S./Mechanical Engineering/Fairmont State College

### RELEVANT REGISTRATIONS

Registered Professional Engineer/██████-WV/2007

Registered Professional Engineer/██████-VA/2002

### PROJECT EXPERIENCE

**PSD#4 Lenox/Cuzzart Water System, Preston County, WV - Public Service District #4, Bruceton Mills, Preston County, WV.** Project Manager to design, permit, bid and inspect the construction of a 42-mile water system extension to serve approximately 400 new customers in the Lenox and Cuzzart area of Preston County, West Virginia for the Preston County Public Service District #4. The project includes the design of the water distribution system which includes four water storage tanks, five booster pump stations, and three pressure reducing valves. Funding for the project is provided by the Abandoned Mine Lands division of the West Virginia Department of Environmental Protection (WVDEP/AML) and the West Virginia Infrastructure and Jobs Development Council. The project was initiated by the WVDEP/AML because the areas water sources were significantly impacted by coal mining operations prior to permitting requirements enacted in 1977.

**PSD#4 Hudson to State Line Water System, Preston County, WV - Public Service District #4, Bruceton Mills, Preston County, WV.** Project Manager to design, permit, bid and inspect the construction of a 81-mile water system extension to serve approximately 400 new customers in the Hudson to the State Line area of Preston County, West Virginia for the Preston County Public Service District #4. The project includes the design of the water distribution system which includes four water storage tanks, two booster pump stations, and one pressure reducing valves. Funding for the project is provided by the Abandoned Mine Lands division of the West Virginia Department of Environmental Protection (WVDEP/AML), Drinking Water Treatment Revolving Fund (DWTRF) and the West Virginia Infrastructure and Jobs Development Council. The project was initiated by the WVDEP/AML because the areas water sources were significantly impacted by coal mining operations prior to permitting requirements enacted in 1977.

**Lyonsooth, Commercial Development Property, Nutter Fort, WV.** Project Engineer/Manager on a multi-phased commercial property development site for a private land developer. The phases consist of working with the developer to obtain cut and fill information along with permanent storm retention pond sizing and location on a 15 acre parcel of land, permitting for the phases that include permits to the Department of Environmental Protection for an MR-4C Incidental Coal Removal Permit, an update to the WV Construction Storm Water General Permit. A nother phase consisted of assisting the developer in obtaining status of approval for limestone being removed from the property to be qualified for use on a public dam project.

**Sub-consultant to Land Surveyor for E&P Client – Well Pad, Upshur County, WV.** Project Manager for the development of a well pad in Upshur County, West Virginia. Provided oversight of the preliminary and final design for a well pad with four proposed wells, two drill pits, a 4 million gallon impoundment and 2600 LF of access road. The design included layout, grading, drainage and erosion control per WVDEP standards.

**Confidential E&P Client – County Route 9/7 Improvements, Ritchie County, WV.** Project Manager for the design of 1.25 miles of road upgrade to access multiple well pads. The improvements included increasing roadway travel widths, reshaping of roadway cut/fill slopes, improving roadway geometry, extension/replacement of drainage culverts. All design was completed in accordance with WVDOH and WVDEP standards.

**Confidential E & P Client – County Route 2 2/5 Improvements ( Turtle Run), Ritchie County, WV.** Project Manager for the design of 1.70 miles of road upgrade to access proposed well pads. The improvements included increasing roadway travel widths, reshaping of roadway cut/fill slopes, improving roadway geometry, extension/replacement of drainage culverts.

## Eric McCleary

### Planning & Design

Eric's work experiences include wetland delineation and mitigation, acid drainage abatement, environmental assessments, environmental impact statements, watershed restoration, and threatened and endangered plant and animal identification associated with various environmental projects.

Eric has been responsible for dozens of mitigation / restoration plans and associated monitoring, which involved mitigation / restoration plan development, DEP meetings, construction oversight, planting, and monitoring for both physical and water quality results post-construction. While some of his stream restoration projects were associated with primarily physical design goals achieved using Rosgen methodology, many other projects were designed to achieve stream restoration from a water quality standpoint (e.g., mine drainage).

#### EDUCATION

BS, Biology, Clarion University of Pennsylvania, Clarion, Pennsylvania, 1984

MS, Evolutionary Ecology/Herpetology, Kent State University, Kent, Ohio, 1989

Certification, Operator Class 2 Industrial Wastewater Works, State of Maryland, 2012

Certification, Wild Plant Management Permit, Commonwealth of Pennsylvania, 2011

#### PROJECT EXPERIENCE

**Treatment System Monitoring\*, Baltimore, Maryland (Senior Ecologist)** As senior ecologist Eric was responsible for monthly monitoring (including sampling of the treatment system and analysis of the field water chemistry) of the passive treatment system he designed in 2003 and an annual macroinvertebrate report to determine the impact the passive treatment system has on the receiving stream. He also provided consultation for additional treatment needs at this location for Constellation Energy (now Exelon Power).

**PSD#4 Lenox / Cuzzart Water System\*, Preston County, West Virginia (Senior Ecologist)** For Public Service District #4, Eric served as the senior ecologist responsible for wetland delineations and stream crossing for the construction of a 42-mile water system extension to serve approximately 400 new customers in the Lenox and Cuzzart area of Preston County, West Virginia for the Preston County Public Service District #4. Included the design of the water distribution system, which included four water storage tanks, five booster pump stations, and three pressure reducing valves. Funding for the project provided by the Abandoned Mine Lands Division of the West Virginia Department of Environmental Protection (WVDEP/AML) and the West Virginia Infrastructure and Jobs Development Council. The project was initiated by the WVDEP/AML because the area's water sources were significantly impacted by coal mining operations prior to permitting requirements enacted in 1977.

**Well Pad and Utility Line Siting and Permitting\*, Various, Pennsylvania (Senior Ecologist)** Eric was the senior ecologist responsible for wetland delineations, stream evaluations and assessments, applicability of acid mine drainage for a water source for the industry's needs (hydrofracing), general permitting, PNDI reviews, and Timber Rattle Snake and Massasauga monitoring.

**General Permit Applications\*, Various Counties, Pennsylvania (Senior Ecologist)** As senior ecologist, Eric prepared general permit applications for stream crossing and natural gas line development that included environmental assessments at various sites. He also evaluated critical habitat for various animal and plant species including Timber Rattlesnakes.

**Eldredge Spill Biological Assessment\*, Venango County, Pennsylvania (Senior Ecologist)** As senior ecologist Eric conducted a follow-up on a spill that occurred along Interstate 80. He conducted PNDI review to determine if any threatened, endangered, or sensitive species and/or habitat are present in the project area, along with an NWI, Chapter 93, and native trout stream review. Eric also conducted field investigation to determine area of contaminated soil and sediment. He determined if any wetlands were present and, based on agency review, if the wetlands are Exceptional Value (EV); and prepared a summary report to determine if any additional studies were necessary for compliance with 25 PA Code 250.311.

**Environmental Assessment and Archeological Evaluations\*, McKean County, Pennsylvania (Senior Ecologist)** As senior ecologist, Eric was responsible for environmental assessment of the Kinzua Valley Trail (10.5 miles). The project included critical habitat assessments for numerous plant & animal species including Timber Rattlesnakes and Wood Turtles.

## Donnie Yost

### Planning & Design

Mr. Yost has 2 years' experience in AML Design and 8 years of experience in other AML related design work. He has performed quantity calculations; developed CADD drawings, developed Hydrologic and Hydraulic design data; has completed sampling for water, soil, coal, and hazmat; prepared technical reports and engineer's estimates for several AML projects.

#### EDUCATION

B.S./Civil Engineering Technology

#### PROJECT EXPERIENCE

**Norton Highwall #1**, Developed CADD drawings and hydrologic and hydraulic design. The project included reclamation, revegetation; topographic surveying; Generation of Construction Mapping; Soil Testing; Hydraulic Studies and design for ditches and pipes; Sediment Control Design; and a revegetation plan.

**Tub Run Highwall & Refuse, Phase I**, Developed CADD drawings and hydrologic and hydraulic design. The Project included reclamation design with 265,000 Cubic Yards of Excavation, 8,500 l.ft. Access Road; 46,000 l. ft. Sediment Control; 9,900 l.ft. of Ditches; 4 Pipes; 8 ft. by 8 ft. Box Culvert; and 74 acres of Revegetation; Topographic Surveying; Generation of Construction 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.

**Tub Run Highwall & Refuse, Phase II**, Developed CADD drawings and hydrologic and hydraulic design. Project included the reclamation design with 307,000 Cubic Yards of Excavation, Four (4) Wet Mine Seals; 9,500 l.ft. Access Road; 65,000 l. ft. Sediment Control; 11,400 l.ft. of Ditches; and 114 acres of Revegetation; Topographic Surveying; Generation of Construction 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.

**Greenbrier Hollow Refuse Pile**, Developed CADD drawings and hydrologic and hydraulic design. The project included reclamation design of coal refuse pile with 51,000 Cubic Yards of Excavation, two (2) wet mine seals; 4,300 l.ft. Sediment Control; 1,015 l.ft. of Ditches; 5 Pipes; and 8 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.

**Pageton (Lambert) Portals**, Developed CADD drawings and hydrologic and hydraulic design. The project included reclamation design of coal refuse pile with 51,000 Cubic Yards of Excavation, twenty four (24) wet mine seals; 13,700 l.ft. Sediment Control; 1,600 l.ft. of Ditches; 1 Pipe; Streambank Protection; and 24 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.

**Town of Newburg Waterline Extension Feasibility Study**, Collected water samples and provided the report for a 8.0 Mile Waterline Extension Feasibility Study – I.D. No. 392, involving 96 Residents. Project included surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; and Initial On-Site Meeting. Engineering cost proposal.

## John Banton, P.E.

### Planning & Design

Mr. Banton currently serves as a senior project engineer and is involved in a range of geotechnical civil engineering projects. His primary responsibilities include the supervision of all aspects of geotechnical explorations, overseeing construction quality control inspections, and designing and overseeing drafting of general civil engineering. Mr. Banton's background includes experience as both technician and engineer. He has supervised subsurface investigations for residential, commercial and industrial facilities. He has designed soil retention and underground and above ground stormwater detention systems. Other experience includes performing foundation and soil construction quality assurance, drafting, surveying, drilling and sampling, and report writing. He has worked on design projects involving dams, drainage, retaining walls, water and sewer lines, foundations for buildings, towers, tanks and roads.

#### EDUCATION

BS, Civil Engineering, University of Kentucky, Lexington, Kentucky, 1995

Structural Geogrid Seminar, Cincinnati, Ohio, 2000

Underground Detention Designs for Stormwater Management, National Corrugated Steel Pipe Association and American Iron and Steel Institute, Cincinnati, Ohio, 1998

#### RELEVANT REGISTRATIONS

Professional Engineer [REDACTED], Commonwealth of Kentucky

Professional Engineer [REDACTED] State of Ohio

#### PROJECT EXPERIENCE

**Wilson Landslide, Ironton, Lawrence County, Ohio,** Served as project engineer for the geotechnical exploration as well as for the design of the repair of the landslide. The project consisted of a landslide, which threatened a private residence, due in part by groundwater seeping from a series of abandoned mines. A gabion retaining wall was constructed to restore the resident's usable space. Subsurface drains were installed to control groundwater. The project qualified for O DNR A ML Emergency Program funding. Mr. Banton ensured a quick turnaround of the design documents in order to execute a timely remediation.

**Diamond Brick Subsidence Emergency Project, Oak Hill, Jackson County, Ohio,** Past underground mining caused a sinkhole to suddenly develop beside a house, in a play area for resident children. Stantec advanced rock core borings on the property to establish coal/void extents. Mr. Banton, as with many other similar projects in the Emergency Program, quickly visited the site, performed a rough topographic survey and produced a suitable plan view drawing for use as a construction layout. A photographic survey of the structure and surrounding land was also performed. A set of bid-ready documents for a grouting program were prepared and submitted within 11 days of the site visit.

**Midvale Burning Gob Pile, Tuscarawas County, Ohio,** A former coal and clay strip mine was the site of a deposit of coal refuse that was burning underground. Past efforts failed to extinguish the fire. Stantec prepared plans and specifications to stop the fire and reclaim the surrounding mine bench. Mr. Banton designed the excavation and backfill plans as well as drainage and sediment control plans. He supervised surveying, the geotechnical exploration, and produced the plans and specifications for the project.

**K&R D-105 Bond Forfeiture Reclamation Project, Stark County, Ohio,** A lake that formed behind a large spoil pile was flooding adjacent land. The firm's design included an economical spillway through the spoil pile and fill for reclaiming mine benches. Mr. Banton detailed drainage and cut and fill limits for a balanced reclamation design. He also provided a detailed estimate of quantities and an engineer's cost estimate.

**Abandoned Mine Lands Reclamation Projects, OH,** Stantec contracted to design and prepare plans and specifications to stop the effects of flooding, slope failure, erosion and acidic runoff on properties of nearby residents. Mr. Banton assisted in design of slopes, design of roads and drainage and design of artificial wetlands. He supervised surveying, assisted in research and created construction documents for the three-site project.

## Garland Steele, P.E.

### Geotechnical

Garland has more than 50 years of experience in civil engineering with a special emphasis on materials, soils, pavements, forensics, quality assurance, geotechnical exploration and design, construction inspection, and contract administration.

He has in-depth experience implementing research findings in the field; working with a state Department of Transportation program for materials sampling and testing, materials and pavement specifications, structural steel inspection and testing, and soil and rock mechanics exploration, testing, and design; working with state Department of Transportation maintenance and construction operations; and overseeing operations related to the management, recovery and repairs required in the wake of emergencies and disasters affecting the West Virginia highway system (including flooding, earth movements, winds, structural failures, ice and snow, and other traffic flow impacts).

### EDUCATION

Concrete Technician ( ), WVDOT, Charleston, West Virginia, 1990

Aggregate Inspector ( ), WVDOT, Charleston, West Virginia, 1990

Asphalt Technician ( ), WVDOT, Charleston, West Virginia, 1990

Licensed Class B Explosives Permit ( ) West Virginia, Charleston, West Virginia, 1990

Bachelor of Arts, West Virginia State University, Institute, West Virginia, 1976

Training, FHWA-NHI-130055 Safety Inspection of In-Service Bridges, National Highway Institute, West Virginia, 2012

### RELEVANT REGISTRATIONS

Professional Land Surveyor ( ) State of West Virginia

Professional Engineer ( ) State of West Virginia

### PROJECT EXPERIENCE

**Old Bridgeport Hill Mine Drainage, Phase II Plans Modification, Harrison County, West Virginia**, Harrison County – Near Bridgeport, Clarksburg - Design

**AML Project, P.O. #12373A**

**Coalfields Expressway (5-14-04), Wyoming and Raleigh Counties, West Virginia**, Design of 2 mile section of four lane highway with at-grade intersections (withdrawn); State Project #X355-121-16.65 00; Federal Project #HP-1808(007)C

**Sauls Run Strip and Landslide Project (7-2004), Lewis County, West Virginia; AML Project**

**Tunnelton (Dillworth) Landslide (8-2004), Preston County, West Virginia; AML Project**

**Weaver Portals and Mine Drainage; AML Project, P.O. #DEP12578**

**Fisher-Mill Creek Bank Stabilization (10-04), Jackson County**, Design and Construction inspection.

**Laurel Lake Sediment Removal Project, Mingo County**

**Summit Park Waterline Feasibility Study**

**Hendrickson Subsidence Investigation; AML Project**

**North Fork Hughes River – Stream Bank Stabilization, Cairo, Ritchie County, West Virginia**

**Nixon Run; AML Project**

## Stan Harris, P.E.

### Geotechnical

Mr. Harris has broad experience in the field of geotechnical engineering. His past work includes performance of geotechnical explorations for buildings, bridges, dams, landfills, highways, water and waste water treatment plants, and manufacturing facilities. Duties on these projects include development of boring plans, supervision of drilling operations, direction of laboratory testing programs, and performance of engineering analysis and design. He is also responsible for preparation of final geotechnical reports. Mr. Harris reviews and performs engineering analysis for settlement, bearing capacity, and slope stability, and he is experienced in the analysis and design of foundation systems and retaining walls. Mr. Harris is responsible for the supervision of Project Engineers along with numerous Drill Crews, and Field and Laboratory Technicians. He is also responsible for directing efforts of Field Technicians performing quality control testing on major earthwork projects.

#### EDUCATION

BS in Civil Engineering, University of Kentucky, Lexington, Kentucky, 1980  
MS in Civil Engineering, University of Kentucky, Lexington, Kentucky, 1982  
Foundations and Earth Retaining Structures, University of Akron, Akron, Ohio, 2006  
ODOT Office of Geotechnical Engineering Workshop, Columbus, Ohio, 2008  
Ohio River Valley Soils Seminars, Various Topics, Cincinnati, Ohio, 2007

#### RELEVANT REGISTRATIONS

Professional Engineer #53083, State of Ohio

#### PROJECT EXPERIENCE

**Stock Township Road 302, Noble and Muskingum Counties, Ohio (Project Manager)**, Project Manager for investigation and design of repairs to Stock Township Road 302. Project included hydraulic analysis leading to raising of road to mitigate impacts of flooding caused by strip mining. The project also included remediation of two abandoned tipple sites, one with acid mine drainage. A wetlands was designed to treat AMD.

**Ohio AML Emergency Program, Ohio (Project Manager)**, Mr. Harris serves as Stantec's Project Manager for the AML Emergency program since 1995. He performs site inspections and investigations for mining related problems such as subsidence and landslides. Mr. Harris oversees the preparation of construction documents including drawings, specifications and cost estimates. He has served as Project Manager for more than 60 emergency projects.

**River Road Bank Stabilization, Fairfield, Ohio**, Erosion from the Great Miami River washed out a 125-foot long section of River Road, forcing its closure. Stantec performed a geotechnical exploration and prepared construction plans for the repairs. The design approach incorporated a rock toe and soil embankment reinforced with geogrids. Heavy duty turf reinforcement mat was also used to protect the face of the new slope until vegetation could be established. Live stakings were also used to provide additional protection against erosion. The project was selected by the American Public Works Association as one of its outstanding projects of 2004.

**Center Hill Landfill Bank Stabilization, Cincinnati, Ohio**, Supervised geotechnical exploration for stabilization of approximately 300 feet of stream bank along the Mill Creek, next to a closed landfill. Stantec performed exploratory borings and slope stability analyses for various remediation concepts. Mr. Harris also supervised engineering technicians who performed quality control testing during construction.

**Upper Mill Creek WTP, West Chester, Ohio**, Project Manager for three phases of geotechnical exploration for expansions of the Upper Mill Creek waste water treatment plant. Developed scope of work, assigned field crews and prepared engineering reports for numerous new structures. Stantec also provided similar services for the expansion of Butler County's LeSourdsville treatment plant.

**Symmes Road Extension, Butler County, Ohio**, Served as Project Manager for the geotechnical exploration for the two-mile extension of Symmes Road. Project included exploration for new bridge over CSX railroad.



**Eric Kistner, P.E.**  
Geotechnical

Mr. Kistner currently serves as Project Manager with Stantec and is involved in a wide range of geotechnical engineering projects. His project experience includes management and performance of geotechnical exploration for municipal infrastructure, roadways and bridges, landslides, subsidences, dams and levees, and other public works projects. He also has extensive construction materials testing experience on projects such as new school buildings, parking structures, roadway improvements, and elevation water storage facilities. Mr. Kistner has been involved with numerous abandoned mine-related projects including identifying and locating abandoned mines, exploration of underground abandoned mines, and design of abandoned mine remediation.

**EDUCATION**

BS, Civil Engineering, University of Cincinnati, Cincinnati, Ohio, 1996  
Non-Destructive Testing of Drilled Shafts, Deep Foundations Institute (DFI) Specialty Seminar, Cincinnati, Ohio, 2004  
Helical Foundations and Tiebacks, DFI Specialty Seminar, Cincinnati, Ohio, 2003  
Design and Construction of Earth Retention Structures, DFI Specialty Seminar, Cincinnati, Ohio, 2000  
Mechanically Stabilized Earth Walls, The University of Akron Continuing Education Seminar, Akron, Ohio, 1999  
Various Topics, Ohio River Valley Soil Seminars, Cincinnati, Ohio, 2011

**RELEVANT REGISTRATIONS**

Professional Engineer ██████ State of West Virginia  
Professional Engineer ██████ Commonwealth of Kentucky  
Professional Engineer ██████ State of Ohio

**PROJECT EXPERIENCE**

**ODOT Abandoned Underground Mine Inventory and Risk Assessment, Ohio**, Mr. Kistner served as Project Manager for this project that consisted of populating a risk assessment database for areas where state highway overlaid mapped abandoned mines. Mr. Kistner coordinated with the ODOT and was responsible for training and supervising the field teams. He was responsible for performing quality control review of the database inputs, RCDA remediation cost estimates, and the final report that included inventory statistics and GIS maps.

**Leon Subsidence, Columbiana County, Ohio**, Investigated a settlement feature of a house addition being constructed near Franklin Square, Ohio through the DMRM Emergency Program. The contractor believed that the sudden settlement may have been mining related. Mr. Kistner supervised a drilling crew while advancing borings near the problem area. It was determined that the settlement was not mining related. He was responsible for preparing a report that explained that the settlement was probably caused by a loss of shear strength in soil underlying the basement excavation followed by a rise in the groundwater level during a precipitation event.

**Rodgers Hallow Reclamation Project, Perry County, Ohio**, Mr. Kistner served as geotechnical engineer on this ODNR Division of Mineral Resources Management (DMRM) project that consisted of remediation design for a stream flowing into an abandoned mine and reappearing as acid mine drainage in another stream. He was responsible for coordinating the drilling, sampling and laboratory testing program. Preliminary design recommendations included sealing the mine, stream relocation and stream restoration. Mr. Kistner developed design details and construction cost estimates for the planned mine sealing operation.

**Abandoned Mine Inventory and Risk Assessment (AUMIRA) Statewide Database Population, Ohio**, Mr. Kistner served as Project Manager for this ODOT project that consisted of populating a risk assessment database for areas where state highways overlaid mapped abandoned mines. The project included a published information review, field reconnaissance using handheld GPS equipment, organizing data in a GIS and database population that scored sites on their potential for future collapse. The project also included remediation cost estimating for the higher ranking sites.



## Jesse Binau

### Environmental Permitting

Jesse has more than 21 years of experience conducting and managing environmental studies for transportation projects. He has extensive experience conducting environmental base studies, evaluating alternatives, preparing NEPA documents (Categorical Exclusion, Environmental Assessment, Environmental Impact Statement), and organizing public involvement activities. Jesse has served as project manager or environmental manager on a number of projects, and has also served as task manager for numerous ecological studies and 404/401 permit applications.

#### EDUCATION

BA, Biology, Bluffton College, Bluffton, Ohio, 1992

#### PROJECT EXPERIENCE

**US 19 Improvement, Monongalia County, West Virginia,** Assisted with environmental base studies and preparation of the FHWA-approved environmental assessment/ finding of no significant impact.

**Heathcliff Road Bridge, Montgomery County, Ohio,** Assisted with preparation of the Level 2 Ecological Survey Report, and prepared the Section 4(f) Determination, the Section 106 Coordination package, and Scenic River Coordination for the rehabilitation of the Heathcliff Road bridge over the State-Scenic Stillwater River.

**High-Main Street Bridge, Hamilton, Ohio,** Assisted with public involvement and preparation of the FHWA-approved Level 4 Categorical Exclusion.

**Statewide Ecology/Permit Task Order, Ohio,** Managed various ecological studies throughout Ohio, including stream/wetland/terrestrial habitat and endangered species surveys, as well as preparation of ecological survey reports, biological assessments, mitigation plans, and 404/401 permit applications for a four-year ODOT task order contract (2007-2011). Task order contract renewed in 2011 (through 2013).

**US 30 Improvement, Wyandot and Crawford Counties, Ohio,** Led ecological field studies and assisted with preparation of the ecological survey report, the 404/401 permit application, conceptual mitigation plans, and the FHWA-approved environmental assessment/finding of no significant impact re-evaluation for this 11-mile Major New relocation project.

**US 31 Improvement, Larue County, Kentucky,** Assisted with ecological field studies and preparation of the ecological resources impact assessment.

**US 68, AA Highway to North Fork Licking River, Mason County, Kentucky,** Assisted with ecological field studies and preparation of the ecological resources impact assessment.

**US 119 Improvement, Pike County, Kentucky,** Led ecological field studies and preparation of the ecological resources impact assessment for two US 119 projects in Pike County (Sidney to Huddy, and Zebulon to Bent Mountain).

**US 460 Improvement, Pike County, Kentucky,** Led ecological field studies and preparation of the ecological resources impact assessment.

**US 27 Improvement, Pulaski County, Kentucky,** Assisted with ecological field studies and preparation of the ecological resources impact assessment.

**US 62 Improvement, Bourbon, Harrison and Scott Counties, Kentucky,** Assisted with ecological field studies and preparation of the ecological resources impact assessment.

**US 25 Improvement, Scott and Fayette Counties, Kentucky,** Assisted with ecological field studies, preparation of the ecological resources impact assessment, and preparation of the FHWA-approved environmental assessment/finding of no significant impact/section 4(f) evaluation.

**KY 90 Improvement, Pulaski County, Kentucky,** Led ecological field studies and preparation of the ecological resources impact assessment.

Tab 4

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References

# References

Preston County PSD#4	WVDEP	WV Conservation Agency	Ohio Department of National Resources
Mr. Al Bailey	Mr. Gregg Smith, PE	Mr. Gene Saurborn, PE	Ms. Nancy Seger, PE
PO Box 370 Bruceton Mills, WV 26525	101 Cambridge Place Bridgeport, WV 26330	4720 Brenda Lane, Building 5 Charleston, WV 25305	2045 Morse Rd, Building 5 Columbus, OH 43229
(304) 379-3130	(304) 842-1900	(304) 367-2770	(614) 265-6633

Tab 5

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## Required Forms

# Required Forms

The forms on the following pages are submitted in accordance with the requirements of the Expression of Interest for the Ed Gower HW #2 Project.

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

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

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

**DEFINITIONS:**

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

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

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

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Stantec Consulting Services, Inc.

Authorized Signature: [Signature] Date: 9/15/15

State of West Virginia

County of Marion, to-wit:

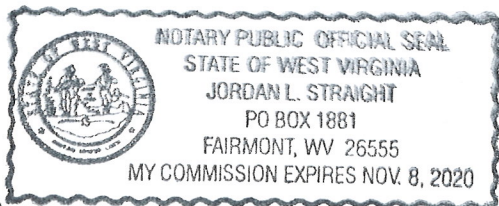
Taken, subscribed, and sworn to before me this 15th day of September, 2015.

My Commission expires November 8, 2020.

**AFFIX SEAL HERE**

**NOTARY PUBLIC**


[Signature]  
Purchasing Affidavit (Revised 07/01/2012)



**CERTIFICATION AND SIGNATURE PAGE**

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained 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.

Stantec Consulting Services, Inc.  
(Company)

 Richard Gaines, PE, Principal  
(Authorized Signature) (Representative Name, Title)

304-816-5190 304-367-9403 9/15/15  
(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM  
SOLICITATION NO.:

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

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

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

- |                          |                |                          |                 |
|--------------------------|----------------|--------------------------|-----------------|
| <input type="checkbox"/> | Addendum No. 1 | <input type="checkbox"/> | Addendum No. 6  |
| <input type="checkbox"/> | Addendum No. 2 | <input type="checkbox"/> | Addendum No. 7  |
| <input type="checkbox"/> | Addendum No. 3 | <input type="checkbox"/> | Addendum No. 8  |
| <input type="checkbox"/> | Addendum No. 4 | <input type="checkbox"/> | Addendum No. 9  |
| <input type="checkbox"/> | Addendum No. 5 | <input type="checkbox"/> | 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.

Stantec Consulting Services, Inc.  
Company

  
Authorized Signature

9/15/15  
Date

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



# State of West Virginia VENDOR PREFERENCE CERTIFICATE

Certification and application\* is hereby made for Preference in accordance with **West Virginia Code**, §5A-3-37. (Does not apply to construction contracts). **West Virginia Code**, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the **West Virginia Code**. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

- 1. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,  
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,  
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,
- 2. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
- 3. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
- 4. **Application is made for 5% vendor preference for the reason checked:**  
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,
- 5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**  
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,
- 6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**  
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
- 7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules.**  
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

**Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.**

Bidder: Stantec Consulting Services, Inc.

Signed: 

Date: 9/15/15

Title: Principal

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AML CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE**

**Attachment "B"**

PROJECT NAME: <b>DEP 16433 Ed Gower HW #2 Project</b>		DATE (DAY, MONTH, YEAR) 15 September 2015	FEIN 11-2167170
1. FIRM NAME <b>Stantec Consulting Services Inc.</b>		2. HOME OFFICE BUSINESS ADDRESS 10160-112 Street, Edmonton, Alberta, Canada, T5K 216	3. FORMER FIRM NAME
4. REGIONAL OFFICE TELEPHONE 304-367-9401	5. ESTABLISHED (YEAR) 1954	6. TYPE OWNERSHIP _ Individual <input checked="" type="checkbox"/> Corporation _ Partnership _ Joint-Venture	6a. WV REGISTERED DBE _ YES <input checked="" type="checkbox"/> NO

7. PRESENT OFFICES: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. PERSONNEL EACH OFFICE

Stantec has over 190 offices across North America. Below we have listed our current offices in West Virginia. For a full listing of Stantec's office locations, please visit [www.stantec.com/locationMap.html](http://www.stantec.com/locationMap.html).

**Charleston, WV (2)**  
723 Kanawha Blvd East, Ste. 411  
Charleston, WV 25301  
(304) 343-0222  
Michael Perry, PE

**Fairmont, WV (30)**  
111 Elkins Street  
Fairmont, WV 26554-4021  
(304) 816-5190  
Richard Gaines, PE

8. NAMES OF PRINCIPAL OFFICIALS OR MEMBERS OF FIRM Robert Gomes – President & CEO Rich Allen – Senior Vice President & COO Dan Lefaiivre – Senior Vice President & CFO	8a. NAME, TITLE & TELEPHONE NUMBER - OTHER PRINCIPALS Aram H. Keith – Chairman Stantec Inc. David L. Emerson – Corporate Director Douglas K. Ammerman – Corporate Director Anthony P. Franceschini Corporate Director Susan E. Hartman – President Hartman Group. Ivor M. Ruste – Executive Vice President
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9. **Personnel by Discipline:** (List each person only once, by primary function.)

<u>3093</u> Administrative	<u>5</u> Ecologist	<u>55</u> Hydraulic Engineer	<u>919</u> Project Manager
<u>213</u> Archeologist	<u>18</u> Economist	<u>57</u> Hydrologist	<u>      </u> Sanitary Engineer
<u>870</u> Architect	<u>505</u> Electrical Engineer	<u>226</u> Interior Designer	<u>389</u> Structural Engineer
<u>263</u> Biologist	<u>456</u> Environmental Engineer	<u>181</u> Landscape Architect	<u>342</u> Surveyor
<u>573</u> CADD Technician	<u>1009</u> Environmental Scientist	<u>459</u> Mechanical Engineer	<u>1937</u> Technician / Analyst
<u>94</u> Chemical Engineer	<u>135</u> Foundation/Geotechnical Engineer	<u>122</u> Mining Engineer	<u>17</u> Toxicologist
<u>1038</u> Civil Engineer	<u>177</u> Geographic Info. System Specialist	<u>171</u> Planner: Urban / Regional	<u>214</u> Transportation Engineer
<u>93</u> Construction Inspector	<u>171</u> Geologist	<u>      </u> Process Engineer / Designer	<u>53</u> Water Resources Engineer
<u>234</u> Construction Manager	<u>15</u> Geotechnical Engineer	<u>      </u> Professional Land Surveyor	<u>71</u> Other
			<u>15661</u> <i>TOTAL PERSONNEL</i>

Total Number of WV Registered Professional Engineers in Primary Office: 4  
\*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? N/A  YES  NO

11.	OUTSIDE KEY CONSULTANTS / SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Confidential Qualification Questionnaire".	
<b>NAME AND ADDRESS:</b> Novel Geo-Environmental, PLLC 806 B Street St. Albans, West Virginia 25177	<b>SPECIALTY:</b> Subsurface drilling investigation-geotechnical engineering – soil, rock, coal physical property testing	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">X</div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>
<b>NAME AND ADDRESS:</b> Sturm Environmental Services P.O. Box 650 Bridgeport, WV 26330	<b>SPECIALTY:</b> Chemical analysis of soil, rock, and coal	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">X</div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>
<b>NAME AND ADDRESS:</b> Blue Mountain Inc. 11023 Mason-Dixon Hwy Burton, WV 26562	<b>SPECIALTY:</b> Aerial Photography Developing mapping from aerial photography	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">X</div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	<b>WORKED WITH BEFORE:</b> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>YES</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; width: 20px; height: 20px;"></div> <div>NO</div> </div>

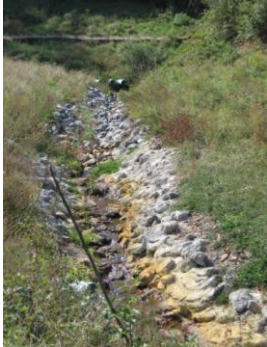

<b>12.</b>	<b>A.</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b> Description and Number of Projects: <b>Corporate Experience: 40+ projects</b>	<p>Stantec has successfully completed 40+ AML Reclamation projects. See Sheets 4 through 10 for a detailed listing of the projects, including the tasks involved with each project.</p>
	<b>B.</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>Is your firm experienced in Soil Analysis?</b> Description and Number of Projects: <b>Corporate Experience: Over 200, including 30+ AML and AML Related Projects</b>	<p>Stantec has successfully completed over 200 soil analysis projects, ranging in size and complexity. In addition, Stantec has completed 30+ AML and AML related Soil Analysis projects. See Sheet 12 for a detailed listing of the AML and related projects, including the tasks involved with each project.</p>
	<b>C.</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>Is your firm experienced in Hydrology and Hydraulics?</b> Description and Number of Projects: <b>Corporate Experience: 80+ projects, including 50+ AML and AML Related Projects</b>	<p>Stantec has successfully completed 100+ hydrology and hydraulics projects, including studies associated with bridges, box culverts, pipes, ditches, and sediment and other ponds. In addition, Stantec has completed 50+ AML and AML Related Hydrology and Hydraulics projects. See Sheets 4 through 10 and Sheet 13 for a detailed listing of the projects, including the tasks involved with each of the AML and AML related projects.</p>
	<b>D.</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>	<b>Does your firm produce its own Aerial Photography and Develop Contour Mapping?</b> Description and Number of Projects: <b>Corporate Experience: 90+ projects, including 75+ AML and AML Related Projects</b>	<p>Stantec subcontracts development of aerial photography to Aerocon Photogrammetric Services and has successfully set aerial photographic control points on numerous engineering projects by GPS and Conventional Surveying techniques. Stantec has also developed topographic and planimetric maps from GPS and Conventional Surveying techniques and supplemented topographic and planimetric features on mapping developed by aerial mapping firms. In addition, Stantec has completed 75+ AML and AML related mapping projects. See Sheets 4 through 10 and Sheet 14 for a detailed listing of the AML and AML related projects, including the tasks involved with each project.</p>
	<b>E.</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>Is your firm experienced in Domestic Waterline Design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)</b> Description and Number of Projects: <b>Corporate Experience: 100+ projects, including 15+ AML projects</b>	<p>Stantec has successfully completed One Hundred Twenty Two (122) Domestic Waterline projects. In addition, Stantec has completed Eleven (11) AML-related Domestic Waterline Projects. See Sheets 9 through 10 and Sheet 15 for a detailed listing of the projects, including the tasks involved with each project.</p>
	<b>F.</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?</b> Description and Number of Projects: <b>Corporate Experience: 15+ projects; Employee Experience Seventeen (17) Projects</b>	<p>Stantec has successfully completed 15+ Acid Mine Drainage Evaluation and Abatement Design projects. See Sheets 9 through 10 and Sheets 16 and 17 for a detailed listing of the projects, including the tasks involved with each project.</p>

12.	A.	<b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b>
	<input checked="" type="checkbox"/>	Yes Description and Number of Projects: <b>Corporate Experience: 45+ projects</b>
	<input type="checkbox"/>	No
<b>CORPORATE EXPERIENCE:</b>		
<i>Nortan Highwall #1 Design Services</i>		Reclamation design with Excavation, wet mine seals including bat gate designs; and revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Tub Run Highwall and Refuse Phase II:</i>		Reclamation design with 307,000 Cubic Yards of Excavation, Four (4) Wet Mine Seals; 9,500 l.ft. Access Road; 65,000 l. ft. Sediment Control; 11,400 l.ft. of Ditches; and 114 acres of Revegetation; Topographic Surveying; Generation of Construction 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Tub Run Highwall and Refuse Phase I:</i>		Reclamation design with 265,000 Cubic Yards of Excavation, 8,500 l.ft. Access Road; 46,000 l. ft. Sediment Control; 9,900 l.ft. of Ditches; 4 Pipes; 8 ft. by 8 ft. Box Culvert; and 74 acres of Revegetation; Topographic Surveying; Generation of Construction 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Town of Newburg Waterline Extension Feasibility Study, I.D. No. 392:</i>		8.0 Mile Waterline Extension Feasibility Study – I.D. No. 392, involving 96 Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; and Initial On-Site Meeting. Engineering cost proposal approved and awaiting a purchase order and “Notice to Proceed”.
<i>Webster County Point Mountain Waterline Extension Feasibility Study:</i>		15.0 Mile Waterline Extension Feasibility Study – I.D. No. 384, involving 103 Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; and Initial On-Site Meeting, Preliminary Report, Monthly Reports, and Invoicing.
<i>Greenbrier Hollow Refuse:</i>		Reclamation design of coal refuse pile with 51,000 Cubic Yards of Excavation, two (2) wet mine seals; 4,300 l.ft. Sediment Control; 1,015 l.ft. of Ditches; 5 Pipes; and 8 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Sauls Run (Carpenter) Landslide:</i>		Mitigation of a landslide behind the Carpenter House with 40,000 Cubic Yards of Excavation, 2,500 l.ft. Sediment Control; 610 l.ft. of Ditches; 3 Pipes; 1 Manhole; Subsurface Drain; and 7 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Pageton (Lambert) Portals:</i>		Reclamation design of coal refuse pile with 51,000 Cubic Yards of Excavation, twenty four (24) wet mine seals; 13,700 l.ft. Sediment Control; 1,600 l.ft. of Ditches; 1 Pipe; Streambank Protection; and 24 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>WVDEP Mapping Contract –South Region:</i>		Project awarded, awaiting project assignments, cost approvals, and “Notice to Proceed”.



12.	A.	<b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b>
	<input checked="" type="checkbox"/>	Yes Description and Number of Projects: <b>Corporate Experience: 45+ Projects</b>
	<input type="checkbox"/>	No
<b>CORPORATE EXPERIENCE:</b>		
<i>Birds Creek Number Four:</i>		Reclamation design with 35,000 Cubic Yards of Excavation, eight (8) wet mine seals including five (5) bat gate designs; and 18 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Bergoo Waterline Extension Feasibility Study, I.D. No. 351:</i>		12.0 Mile Waterline Extension Feasibility Study – I.D. No. 351, involving 350 to 400 Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.
<i>Lewis County EDA Waterline Extension Feasibility Study, I.D. No. 374:</i>		15.2 Mile Waterline Extension Feasibility Study – I.D. No. 374, involving 110 Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; and Initial On-Site Meeting, Preliminary Report, Monthly Reports, and Invoicing.
<i>Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356:</i>		1.5 Mile Waterline Extension Feasibility Study – I.D. No. 356, involving 7 Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.
<i>WVDEP Mapping Contract –South Region:</i>		Twenty one (21) sites mapped totaling 1,700 acres. Set horizontal and vertical control for and developed aerial mapping for the sites. Set baselines for Engineering Design and Construction on all sites and provided topographic and planimetric survey for features not shown by aerial photography. Visited all sites with DEP, attended project meetings, provided weekly/monthly updates, and invoicing.
<i>WVDEP Mapping Contract –North Region:</i>		Eight (8) sites mapped totaling 950 acres. Set horizontal and vertical control for and developed aerial mapping for the sites. Set baselines for Engineering Design and Construction on all sites and provided topographic and planimetric survey for features not shown by aerial photography. Visited all sites with DEP, attended project meetings, provided weekly/monthly updates, and invoicing.
<i>Church Creek/Manown Highwall:</i>		Reclamation design of four (4) sites with 11,800 linear feet of highwall with 220,000 Cubic Yards of Excavation, twenty three (23) wet mine seals including two (2) bat gate designs; and 85 acres of revegetation; Topographic Surveying; Subsurface and Geological Investigation (nine (9) piezometers installed); Generation of Construction Mapping; Water and Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Racine (Bradshaw) Portals:</i>		Reclamation design of six (6) sites with 2,500 Cubic Yards of Excavation, sixteen (16) wet mine seals including eight (8) bat gate designs; and 5 acres of revegetation; Topographic Surveying; Generation of Construction Mapping; Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Hampton Number Four Maintenance:</i>		Reclamation design of a failed refuse fill approximately 600 feet high (in elevation). The site consists of one (1) slip area and an erosion channel up to 40-foot deep in some areas that traverses the centermost portion of the fill area. Acid mine drainage seeps (field pH = 2.5 S.U.) impacts Spruce Laurel Fork, a high quality trout stream. The 16 acre site required 25,000 cubic yards of earthwork, 2,700 linear foot of ditches, a bridge upgrade to handle construction loads, and upgrading existing access roads. Topographic Surveying; Subsurface Geological Investigation; Surface and Groundwater Testing and Reporting; Generation of Construction Mapping; Hydrologic and Hydraulic Studies and design for Ditches and Pipes; Sediment Control Design; Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.





12.	A.	<b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b>
	<input checked="" type="checkbox"/>	Yes Description and Number of Projects: <b>Corporate Experience: 45+ Projects</b>
	<input type="checkbox"/>	No
<b>CORPORATE EXPERIENCE:</b>		
<i>Howesville Sites:</i>		Reclamation design of two (2) sites with 4,000 linear feet of highwall with 63,000 Cubic Yards of Excavation, fifteen (15) wet mine seals including four (4) bat gate designs; and 52 acres of revegetation; Topographic Surveying of 67 acres; Subsurface and Geological Investigation (five (5) piezometers installed); Generation of Construction Mapping; Water and Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Sandy Run Highwall and Portals:</i>		Reclamation design of 1,850 linear feet of highwall with 47,200 Cubic yards of Excavation, five (5) wet mine seals; and 15 acres of revegetation. Topographic Surveying of 22 acres; Subsurface and Geological Investigation (three (3) piezometers installed); Generation of Construction Mapping; Water and Soil Testing; 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, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Wilsie-Rosedale, Sugar Creek PSD Waterline Feasibility Study I.D. No. 324:</i>		17.0 Mile Waterline Extension Feasibility Study – I.D. No. 324, involving 175 Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.
<i>Laurel Valley (Daniels) Landslide Emergency AML Project:</i>		Reclamation design of a 4.0 acre landslide from an abandoned surface mine resting against the Daniels house; 13,000 yards of earthwork; Geotechnical Subsurface Investigation; Existing and Proposed Slope Stability Analysis; Hydrologic and Hydraulic Studies for ditches and culverts; Sediment Control; Revegetation Design. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Price Hill Airshaft/Buildings (Price Hill Complex):</i>		Reclamation design of a 1.5 acre abandoned deep mine shaft site; 1,300 yards of earthwork; suspected vertical mine shaft investigation and sealing (if present); capping another vertical mine shaft with ability to discharge up to 12 cfs of mine water; demolishing several concrete and cut stone ruins; garbage removal, stockpiling and burying on-site refuse. Subsurface Investigation for seating of caps; mine water testing; Hydrologic and Hydraulic Studies for ditches and existing culverts; Sediment Control; Revegetation Design. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Weaver Portals and Highwall, Phases I and II:</i>		Reclamation design of 4,200 linear feet of highwall with 97,000 yards of earthwork; twenty (20) wet mine seals; six AMD treatment limestone beds with “Aluminators”, and 35 acres of revegetation. Topographic Surveying; Subsurface Geological Investigation (six (6) piezometers installed); Surface and Groundwater Testing and Reporting; Supplement and Generation of Mapping; Hydrologic and Hydraulic Studies and design for twenty five (25) Ditches and ten (10) Pipes; Sediment Control Design; Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.
<i>Old Bridgeport Hill Mine Drainage, Phase II:</i>		Reclamation design including four (4) Wet Mine Seals and Drainage Facilities to capture and convey mine drainage around businesses and residents along a half-mile stretch of Old Bridgeport Hill Road. Topographic Surveying; Subsurface Geological Investigation (Piezometer Installation); Surface and Ground Water Testing and Reporting; Generation of Mapping; Reclamation Design with earthwork quantities; Design and Hydrologic and Hydraulic Studies for nine (9) Ditches, eight (8) Pipes, one (1) Subsurface Drain, and four (4) Inlets; Sediment Control Design; Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.

12.	A.	<p><b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b></p> <p>Description and Number of Projects: <b>Corporate Experience: 45+ Projects</b></p>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<b>CORPORATE EXPERIENCE:</b>		
<i>Nixon Run AMD:</i>	<p>The site consists of one (1) open portal into the abandoned Consol 32 Mine that is discharging acid mine drainage (AMD). Preliminary average estimates of AMD flow from the open portal is 235 gallons per minute exhibiting a pH of 3.2 with acidity concentrations around 150 mg/l, iron concentrations around 11 mg/l, aluminum concentrations around 8 mg/l, and manganese concentrations less than 2 mg/l. Topographic Surveying; Subsurface Geological Investigation (Piezometer Installation); Surface and Ground Water Testing and Reporting; Generation of Mapping; Reclamation Design with earthwork quantities; Design and Hydrologic and Hydraulic Studies for nine 905 L.Ft. Ditches, four (4) Pipes, one (1) Subsurface Drain, Sediment Control Design; and Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.</p>	
<i>Arlington (Cox) Drainage:</i>	<p>Reclamation design to alleviate ground water impacts to the Cox Residence involving Two (2) Wet Mine Seals; Hydrologic and Hydraulic Studies and design for 198 feet of Subsurface Drains, two (2) Ditches, and one (1) Pipe; Mine Dewatering and AMD Treatment Plan; Sediment Control Plan; and Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.</p>	
<i>James and Amanda Taylor Waterline Feasibility Study I.D. No. 309:</i>	<p>1.0 Mile Waterline Extension Feasibility Study – I.D. No. 309, involving ten (10) Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.</p>	
<i>Glady Fork Mining, Inc. (Permit D-35-82) Bond Forfeiture:</i>	<p>Active AMD Treatment Facility – Involved the design of a \$3,000,000.00 AMD plant design that incorporated a single treatment train capable of handling 1,000 gallons per minute of alkaline mine drainage with 15 ppm of total iron and included necessary piping and seating for a second treatment train if future needs arise. The project also involved relining existing boreholes to eliminate mine discharge interruptions, design and construction of 2,500 linear feet of gravity fed plant intake line from the boreholes to the plant site, and an active chemical treatment plant. The treatment plant included an aeration basin (concrete), flocculator (concrete), chemical feed building, settling basin (concrete), sludge thickener (concrete), and geo-tube sludge disposal system with overflow catchment and re-treatment capabilities.</p>	
<i>Poplar Ridge / Morrison Ridge Waterline Feasibility Study – I.D. No. 298:</i>	<p>Waterline Extension Feasibility Study – I.D. No. 298, involving 21 Residences. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water; On-Site Meeting and interviews, Monthly Reports, and Invoicing.</p>	
		
<p><b>NIXON RUN AMD:</b> Wet Mine Seal outlet pipes and receiving ditch.</p>	<p><b>PRICE HILL AIRSHAFT AND BUILDINGS:</b> Vertical mine shaft sealing in progress.</p>	



<b>12.</b> <input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>A.</b>	<b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b> Description and Number of Projects: <b>Corporate Experience: 45+ Projects</b>
<b>CORPORATE EXPERIENCE:</b>		
<i>Summit Park PSD Waterline Feasibility Study – I.D. No. 288:</i>	2.75 Mile Waterline Extension Feasibility Study – I.D. No. 288, involving 167 Residences and Businesses. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation; Soil Sampling; Project Mapping; Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Executive Summary, Monthly Reports, and Invoicing.	
<i>Murray City AMD and Art Project:</i>	Reclamation design for abandoned portals discharging Acid Mine Drainage. Topographical Surveying; Mapping; Subsurface Investigation (Piezometer Installation and Soils Testing); Passive Acid Mine Drainage Treatment System including two (2) SAPS, two (2) Precipitate Ponds, One (1) Flush Pond, Mine Pool Stabilization Pond and Overflow Treatment Pond; Design and Hydrologic and Hydraulic Studies for Construction in Floodway (Local Flood Plain Coordination and Permit), thirteen (13) Ditches and six (6) Spillways; Design of a Wet Mine Seal; Incorporation of Art Component to Satisfy Funding; Interim Grading Plan to allow relocation of a high pressure gas line; Sediment Control Plan; Revegetation Design; Environmental Permits; Construction Plans and Specifications; Calculation Brief with Quantity Calculations; Engineers Cost Estimate; Initial On-Site, 50%, 90%, Check Set, and Final Design Meetings; Monthly Reports and Invoicing.	
<i>Nutters Tipple D-716:</i>	Reclamation design of a 7.2 Acre Bond Forfeiture Coal Tipple Site; Surveying; Geotechnical (Slope Stability) Investigation; Coal Analysis; HazMat Materials (2 UST’S, 8 AST’S, R-R Ties, 55-Gallon Drums, Refrigerators, Stained Soil); Debris Removal Plan; Design and Hydrologic and Hydraulic Studies for Subsurface Drain; two (2) Ditches, and a Channel Design; Sediment Control Plan; Revegetation Plan; Calculation Brief with Quantity Computations; Engineers Cost Estimate; Construction Plans and Specifications; Initial, 50%, 90%, Final Design Meetings; Monthly Reports and Invoicing.	
<i>Hodgesville PSD Waterline Feasibility Study – I.D. No. 275:</i>	1.2 Mile Waterline Extension Feasibility Study – I.D. No. 275, involving Seventeen (17) Residents. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.	
<i>McElwain Waterline Feasibility Study – I.D. No. 271:</i>	0.64 Mile Waterline Extension Feasibility Study – I.D. No. 271, involving One (1) Resident. Surface and Ground Water Testing and Reporting; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Water Analyses Interpretation and Evaluation; Ground Water Contamination Mitigation Alternatives with Estimated Construction Costs; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.	
		
	<b>TUNNELTON (DILLSWORTH) LANDSLIDE</b> Gabion Basket Wall Installation behind Dillsworth Residence	<b>SAULS RUN STRIP AND LANDSLIDE</b> AML related slip threatening residences along Sauls Run

12.	A. (Cont.)		Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?			
	<input checked="" type="checkbox"/>	Yes No	Description and Number of Projects: <b>Corporate Experience: 45+ Projects</b>			
<i>Fairmont (Hendrickson) Subsidence:</i>	Subsidence investigation of Hendrickson Residence involving Geologic Subsurface Investigation; review and compilation of three previous reports; Field Surveying; Public and Private Record Search; Hydrologic and Geologic Field and Record Investigation and Report; Structure and Support Area Mitigation Alternatives; and Initial On-Site Meeting, Preliminary Report, Final Report, Monthly Reports, and Invoicing.					
<i>Flint Run East Acid Mine Drainage Reclamation:</i>	Phase I Reclamation design of a 171-Acre Coal Refuse Area, design reclamation of spoil piles, treatment and discharge plan for ponds and lakes filled with AMD, passive AMD treatment design, including a SAPS, Wetland, Limestone Bed, Steel Slag Leach Beds, and Open Limestone Channels. GPS, Topographic Surveying; supplement of available aerial mapping; Design and Hydrologic and Hydraulic Studies for four (4) Channels, three (3) Ditches, and seven (7) Spillways, Design of eight (8) Impoundments (Three Flush Ponds, Sediment Pond, SAPS Pond, Fresh Water Pond, and Steel Slag Pond); Sediment Control Design; Revegetation Design; Environmental Permits; Construction Plans and Specifications, Calculation Brief with Quantity Calculations; Engineers Cost Estimate; Initial On-Site, 50%, 90%, Check Set, and Final Design Meetings; Monthly Reports and Invoicing.					
<i>Danehart Acid Mine Drainage Reclamation:</i>	Reclamation design on a 2.0 Acre Slope Failure Five (5) Feet from a Residence; Surveying (Property and Topographic); Geotechnical (Slope Failure) Investigation; Surface and Ground Water Testing; Mapping; Reclamation Design with Pier and Lag Retaining Wall Design; Design and Hydrologic and Hydraulic Studies for a Ditch, a Subsurface Drain, Culvert Design; Sediment Control Plan; Revegetation Plan; Calculation Brief with Quantity Computations; Engineers Cost Estimate; Construction Plans and Specifications; Initial, 50%, 90%, Check Set, and Final Design Meetings; Monthly Reports and Invoicing.					
<i>Midvale Coal Number 7:</i>	35 Acre Coal Tipple and Coal Refuse Disposal Fill Area; GPS and Topographic Surveying; Subsurface Investigation; Coal Analysis; Soil Borrow Analysis; HazMat Investigation (PCB's, Drums, Pails, Stained Soils); Mapping; Calculation Brief with Quantity Computations; Initial On-Site, 50%, 90%, Final Design Meetings; Monthly Reports and Invoicing.					
<i>Tunnelton (Dillsworth) Landslide:</i>	Reclamation of a landslide behind Dillsworth Residence by design of an 84 foot long by 18 foot high Gabion Basket Retaining Wall; Hydrologic and Hydraulic Studies and design for 214 feet of Subsurface Drains, two (2) Pipes, Manhole, and Drop Inlet; Traffic Control and Pavement Repair Plan; Sediment Control Design; and Revegetation Plan Topographic Surveying and Generation of Mapping; Subsurface Geological Investigation (two (2) piezometers installed); Surface and Groundwater Testing and Reporting; Reclamation Design with Earthwork Quantities; Sediment Control Design; and Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.					
<i>Sauls Run Strip and Landslide:</i>	Reclamation design of AML related slip behind the Love, Lee, Rohrbaugh, and Gregory Residences with 59,350 Yards of Earthwork; Hydrologic and Hydraulic Studies and design for 2,764 feet of Ditches, 500 feet of Subsurface Drains, five (5) Pipes, and two (2) Headwalls; Traffic Control and Pavement Repair Plan; Sediment Control; and 6.7 acres of Revegetation. Topographic Surveying and supplementation and generation of Mapping; Subsurface Geological Investigation (ten (10) piezometers installed); Surface and Groundwater Testing and Reporting; Sediment Control Design; and Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.					
<i>Linden Acid Mine Drainage Bioremediation:</i>	<i>Glen Castle Reclamation:</i>	<i>Misco Burning Gob:</i>	<i>Ferris Forfeiture:</i>	<i>Brown Subsidence:</i>	GPS and Topographic Surveying; Aerial Photography (Control and Mapping); Mapping.	
<i>Flint Run Acid Mine Drainage Reclamation:</i>	Provided options with cost/benefit analysis to mitigate "worst" acid mine drainage in the State of Ohio. Project included two (2) month hydrologic investigation; impounded water and sediment investigation; chemical treatment option (AquaFix or hydrated lime) for AMD discharges; passive treatment options for AMD discharges included: eliminating AMD discharge sites through backfilling operations; reducing AMD flows by diverting up-gradient ground waters; cover high infiltration areas; alkaline amendment for coal refuse cover and to support vegetation; open limestone channels; steel slag leach beds; aerobic wetlands; limestone filter beds; limestone polishing leach bed; open limestone drainage ditches and channels; and vegetation plan.					

<b>12.</b> <input checked="" type="checkbox"/> <b>X</b> <input type="checkbox"/>	<b>A. (Cont.)</b> <b>Yes</b> <b>No</b>	<b>Is your firm experienced in Abandoned Mine Lands Remediation / Mine Reclamation Engineering?</b> Description and Number of Projects: <b>Corporate Experience: 45+ Projects</b>
<i>Lake Milton Investigation:</i>	220 Acre-foot Impoundment Investigation; GPS, Hydrographic and Topographic Surveying; Geotechnical (Pending Embankment Failure) Investigation; Surface and Ground Water Testing; Impounded Water and Sediment Investigation; Mapping; Aerial Photography (Control and Mapping); Reclamation Design Alternatives Report; Hydrologic and Hydraulic Studies for Ditch, Channel, Spillway Design; Sediment Control Design; Revegetation Plan; Calculation Brief with Quantity Computations; Engineers Cost Estimate; Initial On-Site, 50%, 90%, Final Design Meetings; Monthly Reports; Invoicing.	
		
<p align="center"><b>Lake Milton Embankment Piping Leak</b>  <b>LAKE MILTON - near Jackson, Jackson County, OH</b></p>		<p align="center"><b>Lake Milton Geotechnical Investigation</b>  <b>LAKE MILTON - near Jackson, Jackson County, OH</b></p>
<p align="center"><b>Related Abandoned Mine Lands Remediation / Mine Reclamation Engineering</b></p>		
<i>West Virginia Conservation Agency:</i>	Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Krout Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Creek Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project, Coalwood Floodplain Improvement Project, Rachel Floodplain Improvement Project, Barkers Creek Stream Bank Protection Project, Reedsville Equipment Storage Building, Jackson's Mill Livestock Arena, Edgewood Stream Bank Stabilization Project, Pringle Road Landslide Remediation, Back Creek Natural Stream Restoration Project, Bunnell Run Stream Bank Stabilization Project, Deckers Creek Stream Bank Stabilization Project..	

12.	B.	<p><b>Is your firm experienced in Soil Analysis?</b></p> <p>Description and Number of Projects: <b>Numerous Projects Involving Physical Properties of Soil Including Soil Stability Investigations, Design of Soil Fill Slopes, as well as Chemical Properties of Soils including Revegetation Plans.</b></p> <p><b>CORPORATE EXPERIENCE:</b></p>
	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	
<i>Slope Stability and Design of Fill Slopes</i>	<p><b>AML</b> – Sauls Run (Carpenter) Landslide; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Nutters Tipple D-716; Danehart Acid Mine Drainage; Lake Milton Investigation. <b>WVCA</b> – Fisher-Mill Creek Bank Stabilization; Harmons Creek Bank Stabilization; Parchment Valley Bank Stabilization; North Fork Hughes River Bank Stabilization. <b>Landfills</b> – Franklin County Sanitary Landfill Capping and Closure Plan; Bobmeyer Landfill Capping and Closure Plan; Fayette County Sanitary Landfill #3 Capping and Closure Plan; Hardin County Sanitary Landfill Capping and Closure Plan; Allied Sanitary Landfill Capping and Closure Plan; Triangle Landfill Capping and Closure Plan; Coshocton Landfill Capping and Closure Plan; B &amp; E Landfill Capping and Closure Plan; Westerville Landfill Capping and Closure Plan. <b>Road Design</b> – U.S. Route 35 Couch to Coast Guard Station; Lawrence County Route 7; Corridor H, Section 6 Davis to Bismark; Williams Road Widening; Journal Street Extension; Frantz Road; Maxtown Road; Alum Creek Drive. <b>Quality Control / Quality Assurance Projects</b> – Gladly Fork Permit D-35-82 Bond Forfeiture; ODNR Racine Docks; Fisher Mill Creek bank Stabilization; Hazelton Federal Prison; Clifford Hollow Bridge; Corridor H Job 123; Corridor H Job 125; Corridor H at Baker; Mon-Fayette Bridge; Glenville Federal Prison.</p>	
<i>Revegetation Plans</i>	<p><b>AML</b> – Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number 4; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Howesville Sites, Sandy Run Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Gladly Fork Mining, Inc. D-35-82 Bond Forfeiture; Weaver Portals and Highwall Phase I and II; Nixon Run AMD; Tunnelton (Dillsworth) Landslide; Arlington (Cox) Drainage; Sauls Run Strip and Landslide; Old Bridgeport Hill Mine Drainage, Phase II; Flint Run East Acid Mine Drainage Reclamation; Murray City AMD and Art Project; Flint Run Acid Mine Drainage Reclamation; Danehart Acid Mine Drainage; Midvale Coal Number 7; Nutters Tipple D-716; Lake Milton Investigation. <b>Landscape Architecture Projects (with soil and vegetation designs)</b> – Willowbrook Linear Parkway; Willowbrook Conceptual Park Plan; Northgate Commercial Development; Montgomery Park; Tartan Fields Golf Course; Hoff Woods Park; Meri-Mac Park; Bridlewood Park; Friendship Park.</p>	

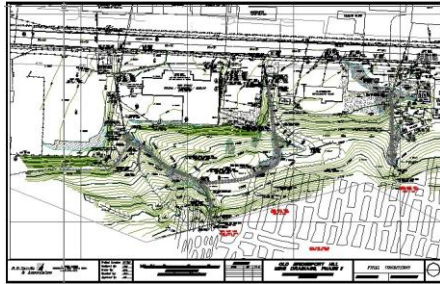
<b>12.</b> <input checked="checked" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>C. Is your firm experienced in hydrology and hydraulics?</b> Description and Number of Projects: <b>Numerous Projects Involving H &amp; H Studies for Flood Plain Improvements, Impoundments, Road Bridges, Pipes, Culverts, Box Culverts, Ditches, Channels, and Channel Relocations and Restoration using Natural Stream Design Techniques.</b>
<b>CORPORATE EXPERIENCE:</b>	
<i>H &amp; H Studies for Flood Plain Improvements and Impoundments</i>	<b>AML</b> – Weaver Portals and Highwall Phase I & II; Flint Run East Acid Mine Drainage Reclamation; Murray City AMD and Art Project; Flint Run Acid Mine Drainage Reclamation; Lake Milton Investigation. <b>SPEC REC</b> – Glady Fork Mining, Permit D-35-82, <b>NPDES and Waste Permits (Sediment Control Structures)</b> – C.J. Martin Enterprises; A.F. Wendling Inc.; Pope Properties; Deer Park Development; Fairfax Trucking (Corridor H); Mountaineer Grading (Upper Tract to Petersburg Road); Allwood Construction (Philippi Bypass); Odom Construction Job 123 (4 Waste Permits); Odom Construction Job 125 (1 Waste Permit); C.J. Martin Enterprises Waste Permit; Mountaineer Grading (Moorefield Junction Road). <b>WVCA</b> – Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project.
<i>H &amp; H Studies for Bridges</i>	<b>SPEC REC</b> – Glady Fork Mining, Permit D-35-82, <b>Others</b> - Route 35 (Mason County); Mile Branch Bridge; Upper Tract bridge; Buffalo Creek Bridge; Sawmill Parkway Pedestrian Crossing; Southwest Dublin Traffic Calming; LAW-7-02.17; LIC-40-44.930; FRA-70-13.12; FRA-315-00.30R; SHE-CR-41-3.14; PER-93-33.26B; MEG-143-11.29; Children’s Home Road Bridge; PIC/FRA-23-12.92/0.00; CR 23 over Elk Fork; HIG-138-24.36; Ranger Road over Georges Creek; CR24A over the Hocking River; CR24 over the Hocking River; HIG-28-2.80; PER-93-12.40; GUE-209-5.73; CR 41 over the Miami River; I670(S) over Conrail; B&O and N&W Railroads; 4th Street Connector over Conrail and B&O Railroads; I670 over Alum Creek; I670 over 5 <sup>th</sup> Street.
<i>H &amp; H Studies for Pipes, Inlets, Culverts, Box Culverts</i>	<b>AML</b> – Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number 4; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Howesville Sites, Sandy Run Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Weaver Portals and Highwall Phase I & II; Nixon Run AMD; Tunnleton (Dillsworth) Landslide; Arlington (Cox) Drainage; Sauls Run Strip and Landslide; Old Bridgeport Hill Mine Drainage, Phase II; Flint Run East Acid Mine Drainage Reclamation; Murray City AMD and Art; Flint Run Acid Mine Drainage Reclamation; Danehart Acid Mine Drainage; Nutters Tipple D-716; Lake Milton Investigation. <b>SPEC REC</b> – Glady Fork Mining, Permit D-35-82. <b>Road Design</b> – U.S. Route 35; Lawrence Route 7; Corridor H, Section 6 Davis to Bismark; Williams Road Widening; Journal Street Extension; Frantz Road; Maxtown Road; Alum Creek Drive.
<i>Stream Assessments and Restoration</i>	404, 401 Certification and <b>Natural Stream Design</b> of over 72,000 lineal feet of streams; Racine (Bradshaw) Portals; Tub Run Highwall and Refuse Phase I; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Weaver Portals and Highwall; Pearce Mine, Mead/Coffin Mine, Circle Drive Mine, 300 Pit Mine, Big Valley Mine; Waterloo Coal Company, Inc – Winchester Mine, Westlake Mine, Mead/Sinn Mine, Allied Wets Mine; U.S. Rte. 35 600 linear feet. <b>WVCA</b> – Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal; Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project.

12. **D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?**  
 Description and Number of Projects: **Numerous Projects Developing Contour Mapping from Conventional and GPS Surveying. Aerial Photography and Associated Mapping Subcontracted to Aerocon Photogrammetric Services.**

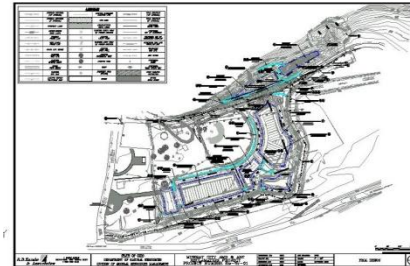
Yes  
 No

**CORPORATE EXPERIENCE:**

<i>Contour Mapping from Aerial Photography</i>	AML – WVDEP North Mapping Contract, 21 Sites Totaling 1,700 Acres, WVDEP South Mapping Contract, 8 Sites Totaling 950 Acres.
<i>Contour Mapping from GPS and Conventional Surveying Techniques</i>	AML – Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number Four; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Howesville Sites, Sandy Run Portals; Hampton Number Four Maintenance; Howesville Sites; Sandy Run Highwall and Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Weaver Portals and Highwall, Phase I & II; Nixon Run AMD; Tunleton (Dillsworth) Landslide; Arlington (Cox) Drainage; Sauls Run Strip and Landslide; Fairmont (Hendrickson) Subsidence; Old Bridgeport Hill Mine Drainage, Phase II; Flint Run East Acid Mine Drainage Reclamation; Murray City AMD and Art Project; Flint Run Acid Mine Drainage Reclamation; Danehart Acid Mine Drainage; Nutters Tipple D-716; Lake Milton Investigation; Midvale Coal Number 7; Linden Acid Mine Drainage Bioremediation; Glen Castle Reclamation; Misco Burning Gob; Ferris Forfeiture; Brown Subsidence. <b>SPEC REC</b> – Glady Fork Mining, Permit D-35-82. <b>WVCA</b> – Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project. <b>NPDES and Waste Permits</b> - Odom Construction Job 123 (4 Waste Permits); Odom Construction Job 125 (1 Waste Permit); C.J. Martin Enterprises Waste Permit; Mountaineer Grading (Moorefield Junction Road). <b>Others</b> – Glenville Federal Prison Pistol Range; BBL Carlton State Office Consolidation Complex Site; West Virginia Wesleyan College Site; Unlimited Futures Site; Dollar Tree Site; Jim Waggle Site; John Jenkins Site.



**Mapping generated from conventional surveying. OLD BRIDGEPORT HILL MINE DRAINAGE**



**Mapping generated from conventional and GPS survey techniques. MURRAY CITY AMD AND ART PROJECT**

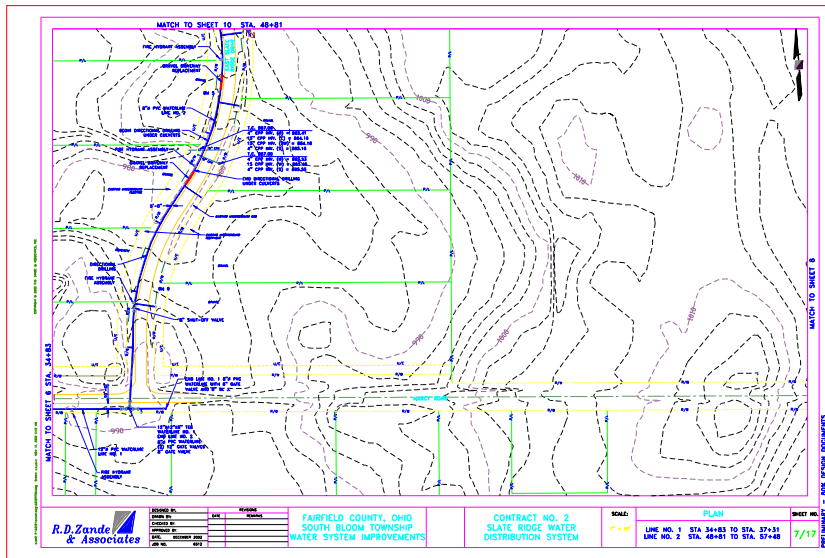


12. E. **Is your firm experienced in domestic waterline experience?** (Include experience your firm has in evaluation of aquifer degradation as a result of mining.)  
 Description and Number of Projects: **Numerous Domestic Waterline Experience Projects and Projects with Evaluation of Aquifers.**

<input checked="" type="checkbox"/>	Yes
<input type="checkbox"/>	No



**CORPORATE EXPERIENCE:**

<i>Waterline Extension Feasibility Studies</i>	<b>AML</b> – 1. Town of Newburg Waterline Feasibility Study - I.D. No. 392; 2. Webster Point Mountain Waterline Feasibility Study - I.D. No. 384; 3. Bergoo Waterline Extension Feasibility Study - I.D. No. 351; 4. Lewis County EDA Waterline Extension Feasibility Study - I.D. No. 374; 5. Scott Road and Findley Road Waterline Extension Feasibility Study - I.D. No. 356; 6. Wilsie-Rosedale Waterline Extension Feasibility Study – I.D. No. 324; 7. James and Amanda Taylor Waterline Extension Feasibility Study – I.D. No. 309; 8. Poplar Ridge/Morrison Ridge Waterline Feasibility Study – I.D. No. 298; 9. Summit Park PSD Waterline Extension Feasibility Study – I.D. No. 288; 10. Hodgesville PSD Waterline Extension Feasibility Study – I.D. No. 275; 11. Charles L. and Donice J. McElwain Waterline Feasibility Study – I.D. No. 271. <b>SPEC REC</b> – Gladly Fork Mining, Permit D-35-82.
<i>Aquifer Degradation Investigation</i>	<b>AML (Mining Related)</b> – Weaver Portals and Highwall; Flint Run Acid Mine Drainage Reclamation; Lake Milton Investigation; Danehart Acid Mine Drainage; <b>Other</b> – Remining in Ohio: Hydrologic Background Sampling Options; New Wellfield Development, Village of Frazeyburg; Wellfield Expansion, Village of Commercial Point; Groundwater Observation Well Network Evaluation and Improvements Statewide; Installation of Monitoring Wells, Columbus South Wellfield Improvements: RI/FS, Eau Claire Municipal Well Field.
<i>Domestic Waterline Experience</i>	<b>Private</b> - Pope Properties Cross Lanes; Odom Construction Corridor H Job 123. <b>Public</b> – Southwest Bloom Township Water Line Improvements; Alum Creek Pump Station; Lithopolis Water Treatment Plant; Kenton Water Treatment Plant; Frazeyburg Water Treatment Plant; Cedar Hill Road Waterline Study; Logan Water System Modeling; James Road Waterline; Dublin Road Waterline; Seeds-Zuber Road Waterline Extension; Young Road Waterline Extension; McKinley Avenue 48” Water Main Design; Madeira-Riverside Drive Waterline; U.S. Route 33 Water System Improvements-12” Waterline Extension; West Logan Lift Station Upgrade; Zahn’s Corner Industrial Park Water System Improvements; Elevated Water Storage Tanks for various municipalities



**Waterline distribution system design.**  
**SOUTH BLOOM TOWNSHIP WATERLINE EXTENSION**  
 Near South Bloom, Fairfield County, OH

<p>12. <input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><b>F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?</b> Description and Number of Projects: <b>Corporate Experience – 10+ WVDEP AML Projects, Six (6) Ohio AML Projects; One (1) Ohio Watershed Organization</b></p>
<p><b>CORPORATE EXPERIENCE:</b></p>	
<p><i>Glady Fork Mining, Inc. (Permit D-35-82) Bond Forfeiture</i></p>	<p>Active AMD Treatment Facility – Involved the design of a \$3,000,000.00 AMD plant design that incorporated a single treatment train capable of handling 1,000 gallons per minute of alkaline mine drainage with 15 ppm of total iron and included necessary piping and seating for a second treatment train if future needs arise. The project also involved relining existing boreholes to eliminate mine discharge interruptions, design and construction of 2,500 linear feet of gravity fed plant intake line from the boreholes to the plant site, and an active chemical treatment plant. The treatment plant included an aeration basin (concrete), flocculator (concrete), chemical feed building, settling basin (concrete), sludge thickener (concrete), and geo-tube sludge disposal system with overflow catchment and re-treatment capabilities. Treated water limits are 0.50 ppm iron average, 0.75 ppm iron maximum.</p>
<p><i>Weaver Portals and Highwall, Phase I &amp; II:</i></p>	<p><b>WVDEP AML</b> – Twenty (20) collapsed portals contribute approximately 95 gpm of pH 3.2, 200 mg/l acidity, 10 mg/l iron, 20 mg/l aluminum, and 2 mg/l manganese to Beaver Creek. Designed passive acid mine drainage treatment systems consisting of Open Limestone Channels and six (6) Limestone Beds with engineered “Aluminator” piping systems. The project also included 97,000 Yards Earthwork, 20 Wet Mine Seals, 25 Ditches, 10 Pipes, Sediment Control Plan, and 35 acre Revegetation Plan. Construction Plans and Specifications; Engineers Cost Estimate, Bid Schedule, and Calculation Brief; Initial On-Site, Preliminary Design, Pre-Bid, and Pre-Construction Meetings; Monthly Reports and Invoicing.</p>
<p><i>Norton Highwall #1; Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number Four, Church Creek / Manown Highwall, Racine, Howesville Sites, Sandy Run Highwall and Portals, Price Hill Airshaft / Buildings (Price Hill Complex), Nixon Run AMD, Old Bridgeport Hill, and Arlington (Cox) Drainage</i></p>	<p><b>WVDEP AML</b> – Designed Mine Dewatering and AMD Discharge Treatment Plans.</p>
<p><i>Flint Run East Acid Mine Drainage Reclamation:</i></p>	<p><b>Ohio AML – Phase I</b> – Designed passive acid mine drainage treatment system for “worst” acid mine drainage in the State of Ohio. Water Quality was pH 3.0, acidity from 1,600 to 6,000 mg/l, iron from 200 to 600 mg/l, aluminum from 30 to 250 mg/l, and manganese from 5 to 55 mg/l. Designs include Open Limestone Channels; Sediment Pond, SAPS Pond, Wetland, Horizontal Limestone Bed, Fresh Water Pond, Steel Slag Leach Bed, and three (3) Flush Ponds; up-gradient diversion of ground water around refuse fills; cover high infiltration areas, alkaline amendment for coal refuse cover and vegetation; sediment control design; vegetation design; environmental permits; Construction Plans and Specifications; Calculation Brief with Quantity Calculations; Engineers Cost Estimate; Initial On-Site, 50%, 90%, Check Set, and Final Design Meetings; monthly reports and invoicing.</p>
<p><i>Flint Run Acid Mine Drainage Reclamation:</i></p>	<p><b>Ohio AML</b> – Report and Investigation with cost/benefit analysis to mitigate “worst” acid mine drainage in Ohio. Project included two (2) month hydrologic investigation; impounded water and sediment investigation; chemical treatment (AquaFix or hydrated lime) for AMD discharges; passive treatment options for AMD discharges: eliminating AMD discharge sites by backfilling operations; reducing AMD flows by diverting up-gradient ground waters; cover high infiltration areas; alkaline amendment for coal refuse cover and to support vegetation; open limestone channels; steel slag leach beds; aerobic wetlands; limestone filter beds; limestone polishing leach bed; open limestone drainage ditches and channels; and vegetation plan.</p>

<i>Danehart Acid Mine Drainage Reclamation:</i>	<b>Ohio AML</b> – Acid mine drainage caused a failed slope in close proximity to Danehart residence. Design included earthwork mass balance, 75 foot long by 10 foot high pier and lag retaining wall design; subsurface drain to treat AMD; ditch and channel design; and vegetation plan.
<i>Lake Milton Investigation:</i>	<b>Ohio AML</b> – 220 Ac.Ft. Impoundment Investigation to mitigate embankment “piping” leak. Impounded water is lightly buffered AMD that required design of SAPS to mitigate impounded and discharged waters. Design included “pump and treat” and “gravity discharge and treat” options while repairing embankment and constructing SAPS. After repair, discharged waters were used to drive steel slag leach bed for additional alkaline addition to the watershed.
<i>Nutters Tipple D-716:</i>	<b>Ohio AML</b> – Alkaline amendment for coal refuse cover and vegetation; encapsulation of coal refuse by subsurface drains and surface diversions to reduce water contact and reaction with coal refuse and eliminate generation of AMD.
<i>Linden AMD Bioremediation:</i>	<b>Ohio AML</b> – Developed mapping for design of AMD treatment systems.
<i>Murray City AMD and Art Project:</i>	<b>Monday Creek Restoration Watershed Group</b> – Geologic and hydrologic and hydraulic investigation to seat AMD passive treatment systems within and next to a floodplain. Water Quality was pH 2.8, acidity 608 mg/l, iron 106 mg/l, aluminum 47 mg/l, manganese 7 mg/l, and flow of 163 gpm. Design, construction plans, specifications, operating manuals for the Murray City AMD and Art Project including Wet Mine Seals, a Mine Pool Stabilization Pond, Overflow Treatment Pond, two stage SAPS Pond or Vertical Flow Wetland, two Precipitate Ponds, and a Flush Pond to passively treat AMD from two nearby deep mine portals, site drainage ditches and channels, cut/fill grading design, vegetation plan, environmental permits; Construction Plans and Specifications; Calculation Brief with Quantity Calculations; Engineers Cost Estimate; On-Site, 50%, 90%, Check Set, and Final Design Meetings; monthly reports and invoicing.
	
<b>Bismark Strip and Drainage: Located near Mt. Storm Passive Acid Mine Drainage Treatment system shortly after construction.</b>	<b>SPEC REC: Gladly Fork Mining, Permit D-35-82 Bond Forfeiture alkaline mine drainage active chemical treatment facility. Along Stonecoal Creek near Buckhannon West Virginia.</b>

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Gaines, Richard, L., P.E. Fairmont, WV Office	<b>YEARS OF AML DESIGN EXPERIENCE:</b>	<b>YEARS OF AML RELATED DESIGN EXPERIENCE:</b>	<b>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:</b>
	5	27	27
<b>Brief Explanation of Responsibilities:</b> Project Manager- Will oversee all tasks under this contract.			
<b>WVAML Experience:</b> Lenox/Cuzzart Waterline Extension Project ; Hudson to Stateline Waterline Extension Project			
<b>EOI Experience:</b> Mr. Gaines has 25+ years of experience in project management and civil engineering related to oil and gas development, land development, water systems and treatment, and sanitary sewer collection and treatment projects. His design experience includes layout, grading, drainage, erosion control and permitting for road entrances, access roads, well pads, pits and impoundments for multiple well pads and developments.			
<b>Education (Degree, Year, Specialization):</b> B.S./Civil Engineering/Fairmont State College A.S./Mechanical Engineering/Fairmont State College			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b> American Society of Civil Engineers; American Council of Engineering Companies		<b>Registration (Type, Year, State):</b> Registered Professional Engineer/17220–WV/2007 Registered Professional Engineer/035466–VA/2002	

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Eric McCleary Fairmont, WV Office	<b>YEARS OF AML DESIGN EXPERIENCE:</b>	<b>YEARS OF AML RELATED DESIGN EXPERIENCE:</b>	<b>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:</b>
	2	30	30
<b>Brief Explanation of Responsibilities:</b> Planning and Design Support- Eric has been responsible for dozens of mitigation / restoration plans and associated monitoring, which involved mitigation / restoration plan development, DEP meetings, construction oversight, planting, and monitoring for both physical and water quality results post-construction. Eric's work experiences include wetland delineation and mitigation, acid drainage abatement, environmental assessments, environmental impact statements, watershed restoration, and threatened and endangered plant and animal identification associated with various environmental projects.			
<b>Education (Degree, Year, Specialization):</b> BS, Biology, Clarion University of Pennsylvania, Clarion, Pennsylvania, 1984 MS, Evolutionary Ecology/Herpetology, Kent State University, Kent, Ohio, 1989 Certification, Operator Class 2 Industrial Wastewater Works, State of Maryland, 2012 Certification, Wild Plant Management Permit, Commonwealth of Pennsylvania, 2011			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b> member, National Association of Environmental Professionals member, Society of Wetland Scientists member, Society for Ecological Restoration		<b>Registration (Type, Year, State):</b>	

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Harris, Stan, P.E. Cincinnati, OH Office	<b>YEARS OF AML DESIGN EXPERIENCE:</b>	<b>YEARS OF AML RELATED DESIGN EXPERIENCE:</b>	<b>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:</b>
	12	32	
<b>Brief Explanation of Responsibilities:</b> Staff Engineer and Signatory – Hydrology, Site Design. Designer – AutoCAD, SurvCAD, and Haestads Operator. Specification Writer, Calculation Brief, Bid Estimate, Microsoft Word and Excel Operator.			
<b>AML Experience:</b> Ohio AML Emergency Program; Little Storms Creek Road Reclamation Project, River Road Bank Stabilization; Center Hill Landfill Bank Stabilization			
<b>Related AML Design:</b> Upper Creek WWTP; Symmes Road Extension			
<b>Education (Degree, Year, Specialization):</b> B.S., 1994, Civil Engineering			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>		<b>Registration (Type, Year, State):</b>	
BS in Civil Engineering, University of Kentucky, Lexington, Kentucky, 1980 MS in Civil Engineering, University of Kentucky, Lexington, Kentucky, 1982 Foundations and Earth Retaining Structures, University of Akron, Akron, Ohio, 2006 ODOT Office of Geotechnical Engineering Workshop, Columbus, Ohio, 2008 Ohio River Valley Soils Seminars, Various Topics, Cincinnati, Ohio, 2007		Professional Engineer #53083, State of Ohio	



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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Banton, John, P.E. Cincinnati, OH Office	<b>YEARS OF AML DESIGN EXPERIENCE:</b>	<b>YEARS OF AML RELATED DESIGN EXPERIENCE:</b>	<b>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:</b>
	17	33	
<p><b>Brief Explanation of Responsibilities:</b> Staff Engineer – Develop and perform quantity calculations; Develop Hydrologic and Hydraulic design data; Water, soil, coal, and hazmat sampling; Technical report and calculation brief preparation; Develop data for engineers estimate.</p>			
<p><b>Ohio AML Experience:</b> Stantec contracted to design and prepare plans and specifications to stop the effects of flooding, slope failure, erosion and acidic runoff on properties of nearby residents. Mr. Banton assisted in design of slopes, design of roads and drainage and design of artificial wetlands. He supervised surveying, assisted in research and created construction documents for the three-site project.</p>			
<p><b>Related AML Design:</b> Various Reclamation projects, Landslide projects, Subsidence Projects</p>			
<b>Education (Degree, Year, Specialization):</b>	BS, Civil Engineering, University of Kentucky, Lexington, Kentucky, 1995 Structural Geogrid Seminar, Cincinnati, Ohio, 2000 Underground Detention Designs for Stormwater Management, National Corrugated Steel Pipe Association and American Iron and Steel Institute, Cincinnati, Ohio, 1998		
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>	<p><b>Registration (Type, Year, State):</b>                      Professional Engineer #21645, Commonwealth of Kentucky                      Professional Engineer #65018, State of Ohio</p>		

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Kistner, Eric, P.E. Cincinnati, OH Office	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
	16	19	0
<p><b>Brief Explanation of Responsibilities:</b> Staff Engineer – Develop and perform quantity calculations; Develop Hydrologic and Hydraulic design data; Water, soil, coal, and hazmat sampling; Technical report and calculation brief preparation; Develop data for engineers estimate.</p> <p><b>Ohio AML Experience:</b> ODOT Abandoned Underground Mine inventory and Risk Assessments; Leon Subsidence; Rodgers Hollow Reclamation Project</p>			
<b>Education (Degree, Year, Specialization):</b>	BS, Civil Engineering, University of Cincinnati, Cincinnati, Ohio, 1996 Non-Destructive Testing of Drilled Shafts, Deep Foundations Institute (DFI) Specialty Seminar, Cincinnati, Ohio, 2004 Helical Foundations and Tiebacks, DFI Specialty Seminar, Cincinnati, Ohio, 2003 Design and Construction of Earth Retention Structures, DFI Specialty Seminar, Cincinnati, Ohio, 2000 Mechanically Stabilized Earth Walls, The University of Akron Continuing Education Seminar, Akron, Ohio, 1999 Various Topics, Ohio River Valley Soil Seminars, Cincinnati, Ohio, 2011		
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>	<p><b>Registration (Type, Year, State):</b>                      Professional Engineer #18654, State of West Virginia                      Professional Engineer #24653, Commonwealth of Kentucky                      Professional Engineer #65507, State of Ohio</p>		

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML 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:
Steele, Garland W., P.E., P.S. Charleston, WV Office	12	37	8

**Brief Explanation of Responsibilities:** Engineer of Record and Geotechnical Manger – Design and implement subsurface investigation work. In-field testing of physical properties of soil, rock, coal materials, and soil, rock, and coal samples for laboratory physical testing. Data entry and review slope stability analysis results, review physical testing laboratory results.

**WVAML experience:** Hampton Number Four Maintenance; Price Hill Airshaft/Buildings; Weaver Portals and Highwall, Phase I and II; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Arlington (Cox) Drainage; Sauls Run Strip and Landslide; Old Bridgeport Hill Mine Drainage, Phase II; Hodgesville Waterline Extension Feasibility Study (I.D. No. 275); Charles and Donice McElwain Waterline Feasibility Study (I.D. No. 271). As Director of the Materials Control and Soil and Testing Division of the WV Department of Highways, he coordinated several WVAML projects with WVDOH projects and goals.

**Related AML Design:** Director, Materials Control, Soil and Testing Division (1965 - 1977), WV Department of Highways, For 12 years, Mr. Steele managed this Division which had six major sections – Structural Steel, Concrete, Bituminous, Soils, Aggregates, and Administrative. The Division was responsible for all physical and chemical materials testing performed by the Department as needed by the Department's Construction, Maintenance, Traffic, Design, and Geotechnical Units. At its peak, Mr. Steele supervised a staff of 275, which included approximately 250 technical and professional personnel. Mr. Steele has made significant contributions to many professional organizations (ASTM, AASHTO, and TRB) involved with developing materials criteria. **SPEC REC:** Gladly Fork Mining Permit D-35-82; **WVCA:** Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project.

**Education (Degree, Year, Specialization):** B.A., 1956, Engineering

<p><b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>                  Member, American Society for Testing and Materials (Board of Director (1992 – 1994), Committee on Standards (Past Chairman), Concrete and Concrete Aggregates (Past Chairman), Road and Paving Materials (Chairman 1982-1983)                  American Association of State Highway and Transportation Officials - Subcommittee on Materials (Past Vice-Chairman), Material Reference Laboratory Council (AMRL) (Past Chairman), Pipe, Culverts, Conduits, and Drains (Past Chairman)                  Member, American Concrete Institute                  Member, West Virginia Society of Professional Engineers                  Member, National Society of Professional Engineers                  Member, West Virginia Society of Civil Engineers                  Member, American Society of Civil Engineers</p>	<p><b>Registration (Type, Year, State):</b>                  Registered Professional Engineer, 1960, West Virginia                  Registered Professional Engineer, 1960, Virginia                  Licensed Professional Surveyor, 1999, West Virginia</p>
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13. **PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
Donnie Yost. Fairmont, WV Office	<b>YEARS OF AML DESIGN EXPERIENCE:</b>	<b>YEARS OF AML RELATED DESIGN EXPERIENCE:</b>	<b>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:</b>
	4	10	3
<p><b>Brief Explanation of Responsibilities:</b> Staff Engineer – Develop and perform quantity calculations; Develop Hydrologic and Hydraulic design data; Water, soil, coal, and hazmat sampling; Technical report and calculation brief preparation; Develop data for engineers estimate; Develop CAD drawings.</p>			
<p><b>WVAML experience:</b> Norton Highwall #1; Tub Run Highwall &amp; Refuse, Phase I &amp; II; Town of Newburg Waterline Extension Feasibility Study; Webster County Commission Point Mountain Waterline Extension Feasibility Study (I.D. No. 384); Greenbrier Hollow Refuse Pile; Pageton (Lambert) Portals, WVDEP- CADD Services Open End Contract</p>			
<p><b>Education (Degree, Year, Specialization):</b> B.S., 2003, Civil Engineering Technology</p>			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>		<b>Registration (Type, Year, State):</b>	

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML 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:
Vincent, John, PE Fairmont, WV Office	4	7	7
<b>Brief Explanation of Responsibilities:</b> Design Support			
AML Design: Lennox/Cuzzart Waterline Extension Project, Hudson to Stateline Waterline Extension Project			
<b>Education (Degree, Year, Specialization):</b> BS: Civil Engineering/Fairmont State College/1994 AS/Architectural Technology			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b> American Council of Engineering Companies, American Society of Highway Engineers		<b>Registration (Type, Year, State):</b> Professional Engineer/WV/2013	

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML 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:
Hannah, Chris, E.I. Fairmont, WV Office	3		3
<b>Brief Explanation of Responsibilities:</b> Design Support			
WVAML experience: Lennox/Cuzzart Waterline Extension project; Hudson to Stateline Waterline Extension project			
<b>Education (Degree, Year, Specialization):</b> MS/Civil Engineering/Fairmont State University/2009			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>		<b>Registration (Type, Year, State):</b> Engineering Intern/2013 Asbestos Inspector/WV/AI007020	

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
45 CADD Operators	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
	9	Varies	Varies
<p><b>Brief Explanation of Responsibilities:</b> CADD Draftsperson including generation of topographic mapping or supplementation of existing mapping, cross sections, detail sheets, tax map overlays, Project Manager or Staff Engineer design compilation. AutoCAD, SurvCAD, and Haestads Operator. Calculation Brief Details and Drawings, Microsoft Word and Excel Operator.</p>			
<p><b>WVAML experience:</b> Norton Highwall #1 Design; Tub Run Phase I &amp; II; Greenbrier Hollow Refuse; Bergoo Waterline Extension Feasibility Study, I.D. No. 351; Lewis County EDA Waterline Extension Feasibility Study, I.D. No. 374; Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356; Birds Creek Number 4; WVDEP Mapping Contract – South Region; WVDEP Mapping Contract – North Region; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Wilsie-Rosedale Waterline Extension Feasibility Study – I.D. No. 324; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Taylor Waterline Extension Feasibility Study-I.D. No. 309; Poplar Ridge Waterline Extension Feasibility Study-I.D. No. 298; Summit Park Waterline Extension Feasibility Study-I.D. No. 288; Hodgesville PSD Waterline Extension Feasibility Study-I.D. No. 275; McElwain Waterline Feasibility Study-I.D. No. 271; Bridge Run; Camp Run; Philip Thorn Highwall; Rainelle AML; SCS Reclamation; Shegon Refuse Pile; Taylor Creek Tipple Complex; Tibbs Run Portal; Masontown AML.</p>			
<p><b>Ohio AML Experience:</b> Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danehart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.</p>			
<p><b>Related AML Design: SPEC REC:</b> Glady Fork Mining Permit D-35-82; <b>WVCA:</b> Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&amp;H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project. Various waste permits for Corridor H (15 permits), numerous topographic and property surveys, Pope Properties Waterline and Wastewater Extension, Nitro, WV</p>			
<b>Education (Degree, Year, Specialization):</b>	CADD Operators – B.S., varies, Civil Engineering Technology, 1 Operator – B.S. 1996, Engineering Technology, Others - Experience		
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>	<b>Registration (Type, Year, State):</b> N/A		



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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
39 Survey Crews available company wide	<b>YEARS OF AML DESIGN EXPERIENCE:</b>	<b>YEARS OF AML RELATED DESIGN EXPERIENCE:</b>	<b>YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:</b>
	11	30+	30+
<p><b>Brief Explanation of Responsibilities:</b> Three (3) fully equipped survey crews can obtain field data to develop topographic mapping or to supplement available aerial mapping. These crews can also use GPS survey techniques to bring horizontal and vertical control to the Project site or control for aerial photography operations. All filed data is electronically gathered, to eliminate errors and blunders, and can be directly downloaded into our computer workstations. Field to finish modules of our SurvCADD software recognize field entered codes that control line work ensuring proper points are connected, proper break lines area established prior to contour generation, and greatly reduces CADD time.</p> <p><b>WVAML experience:</b> Norton Highwall #1 Design; Tub Run Phase I &amp; II; Greenbrier Hollow Refuse; Birds Creek Number 4; WVDEP North Mapping Contract; WVDEP South Mapping Contract; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Taylor Waterline Extension Feasibility Study-I.D. No. 309; Poplar Ridge Waterline Extension Feasibility Study-I.D. No. 298; Summit Park Waterline Extension Feasibility Study-I.D. No. 288; Hodgesville PSD Waterline Extension Feasibility Study-I.D. No. 275; McElwain Waterline Feasibility Study-I.D. No. 271; Bridge Run; Camp Run; Philip Thorn Highwall; Rainelle AML; SCS Reclamation; Shegon Refuse Pile; Superior Hydraulics; Taylor Creek Tipple Complex; Tibbs Run Portal; Masontown.</p> <p><b>Ohio AML Experience:</b> Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danehart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.</p> <p><b>Related AML Design: SPEC REC:</b> Glady Fork Mining Permit D-35-82; <b>WVCA:</b> Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&amp;H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project; various waste permits for Corridor H (15 permits), numerous topographic and property surveys, Pope Properties Waterline and Wastewater Extension, Nitro, WV</p>			
<p><b>Education (Degree, Year, Specialization):</b> 12 Party Chiefs – Associate Degrees Civil Engineering or Surveying Technology.</p>			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>		<p><b>Registration (Type, Year, State):</b> N/A</p>	

<b>14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES.</b>
Computer Workstations
Robotic Total Stations and 18 Surveying Electronic Total Stations
Field Survey Data Collectors
Survey Grade GPS Survey Instruments (complete with base and 2 rovers each)
AutoCAD Versions 2008, 2006, 2002, 2000I, Map 4.0, Map 5.0, version 14.0
SurvCADD versions 2008, 2006, XML2, CES, 98
Eagle Point Engineering Software
AutoCAD Land Development
Bentley MicroStation with InRoads
ESRI ArcView GIS (Version 3.2) and Mapping Software (Version 8.3)
KY Pipe Water and Sewer Line Software
Haestads Water CAD Water and Sewer Line Software
Haestads Culvert Master, Flow Master, Storm CAD
Terrain Navigator with seamless WV 7.5' USGS Quads and Sure Maps by Titan Systems
North American Green Erosion Control Blanket Software
Microsoft Office, including Word and Excel
Microsoft Project Scheduling Software
Primavera P3 Scheduling Software
Corel 98 Suite
Numerous HP, Canon, and Toshiba Ink Plotters and Printers
XSTABL version 5.2 Slope Stability Software

<b>15. CURRENT <u>AML</u> ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD.</b>				
<b>PROJECT NAME , TYPE, AND LOCATION</b>	<b>NAME AND ADDRESS OF OWNER</b>	<b>NATURE OF YOUR FIRM'S RESPONSIBILITY</b>	<b>ESTIMATED CONSTRUCTION COST</b>	<b>PERCENT COMPLETE</b>
Greendale Coals, Inc. S-75-83	Ms. Beth Collins West Virginia Department of Environmental Protection Office of Special Reclamation 601 57 <sup>th</sup> St SE Charleston, WV 25304	This project involves the surveying, sampling, design, preparation of construction drawings, specifications, permit applications, engineer's cost estimate, contractor's bid sheet, pre-bid and pre-construction conferences, construction inspection, reality work and construction inspection. The scope of the project is the construction of water treatment and conveyance system to treat discharge from nine (9) known groundwater outlet points to insure discharge is in compliance with the NPDES permit. The treatment will be accomplished using both active and passive treatment techniques in an effort to make the system as easy to operate as possible while maintaining the lowest possible operation and maintenance costs.	\$349,680.00	1%

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

PROJECT NAME , TYPE, AND LOCATION	NATURE OF YOUR FIRM'S RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRM'S RESPONSIBILITY

17. **COMPLETED AML WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS DESIGNATED THE ENGINEER OF RECORD.**

<b>PROJECT NAME &amp; TYPE</b>	<b>LOCATION</b>	<b>NAME &amp; ADDRESS OF OWNER</b>	<b>ESTIMATED CONSTRUCTION COST</b>	<b>YEAR</b>	<b>CONSTRUCTED (YES OR NO)</b>
Hampton Number Four Maintenance	Clothier, Boone County, WV	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 850,000	2010	Yes
Racine (Bradshaw) Portals	Racine, Boone County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 410,000	2010	Yes
Church Creek/Manown Highwall	Kingwood, Preston County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 2,500,000	2011	Yes
WVDEP Mapping Contract –North Region	Northern Coal Producing Counties	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	N/A	2011	N/A
WVDEP Mapping Contract –South Region	Southern Coal Producing Counties	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	N/A	2011	Yes
Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356	Norton, Randolph County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$259,600	2011	Awaiting Funding
Lewis County EDA Waterline Extension Feasibility Study, I.D. No. 374	Pricetown, Lewis County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$2,276,000	2011	No (Didn't Qualify for Funding)
Bergoo Waterline Extension Feasibility Study, I.D. No. 351	Bergoo, Webster County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$1,788,000	2011	No (Didn't Qualify for Funding)
Birds Creek Number Four	Kingwood, Preston County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 999,000	2011	Yes

17. COMPLETED AML WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS DESIGNATED THE ENGINEER OF RECORD.

PROJECT NAME & TYPE	LOCATION	NAME & ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
WVDEP Mapping Contract –South Region	Southern Coal Producing Counties	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	N/A	2011	Yes
Pageton (Lambert) Portals	Pageton, McDowell County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 1,100,000	2011	No
Sauls Run (Carpenter) Landslide	Weston, Lewis County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 450,000	2011	Yes
Greenbrier Hollow Refuse	McDowell, McDowell County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 712,000	2011	No
Webster County Point Mountain Waterline Extension Feasibility Study, I.D. No. 384	Webster Springs, Webster County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	N/A	2011	No (Didn't Qualify for Funding)
Town of Newburg Waterline Extension Feasibility Study, I.D. No. 392	Newburg, Preston County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	N/A	2011	Pending P.O. and "Notice to Proceed"
Tub Run Highwall and Refuse Phase I	Thomas, Tucker County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 2,300,000	2011	No
Tub Run Highwall and Refuse Phase II	Thomas, Tucker County, West Virginia	WVDEP, Office of Abandoned Mine Lands 601 57 <sup>th</sup> St. SE, Box 20 Charleston, WV 25340	\$ 2,800,000	2011	No



**18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONTRACTOR 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	CONTRACTED (YES OR NO)	FIRM ASSOCIATED WITH

**19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.**

Stantec can provide one-stop shopping for the West Virginia Abandoned Mine Lands Program. Work, including surveying, development of mapping from field surveys, site design, CADD operations, water testing, hazmat testing, calculations, plans, and specifications associated with this task order contract completed in-house. Stantec carefully selected sub-contractors, successfully used in the past, to perform drilling and chemical testing of soils, rock, and coal that have experience and are extremely familiar with WVAML Projects. Stantec has EOI-specific corporate and employee experience with highwall reclamation engineering, mine seals, drainage control structures and facilities, passive treatment of AMD, debris and waste handling and disposal plan, and revegetation of drastically disturbed areas. Stantec also has EOI-experience in surveying and mapping, subsurface investigations, H & H studies, construction plans and specifications, calculations, conducting associated bid meetings, and necessary reports and invoicing procedures. Stantec has corporate experience on 45+ WVAML Projects, and 10+ ODNR AML projects. In addition, Stantec has completed 8 AML Related projects for the West Virginia Conservation Agency. Stantec personnel stay abreast of current developments and technological advances in Abandoned Mine Lands reclamation and acid mine drainage by attending seminars and symposiums on the subjects. In the past, Stantec has attended the WV Surface Mining Task Force Symposium in Morgantown, WV; the National Association of Abandoned Mine Lands Symposium in Athens, OH; West Virginia University Natural Stream Restoration Program in Morgantown, WV; 404/401 Permit Training in Charleston, WV; and State and Local Mitigation Planning in Buckhannon, sponsored by FEMA and WVOES.

**20. The foregoing is a statement of facts.**

**Signature:**



**TITLE: Principal**

**DATE:**

9/15/15

Printed Name: Richard L. Gaines, PE

AML AND RELATED PROJECT EXPERIENCE MATRIX																								
PROJECTS	Exp. Basis C=Corp P= Personal *	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	Richard L. Gaines, PE	Donnie Yost	Garland Steele, PE	Stan Harris, PE	John Banton, PE	Eric Kistner, PE	Hugg Aparicio, PE
Greendale Coals, Inc.	C	2	X			X					X	X	X	X		X	X	M						
Tub Run Highwall and Refuse Phase II	C	2	X		X	X			X		X	X	X				X		P					
Tub Run Highwall and Refuse Phase I	C	2	X		X	X			X		X	X	X				X		P					
Greenbrier Hollow Refuse	C	2	X		X	X			X		X	X	X				X		P					
Pageton (Lambert) Portals	C	2	X		X	X			X		X	X	X	X			X		P					
Birds Creek #4	C	2	X		X	X			X		X	X	X	X			X							
Church Creek/Manown Highwall	C	2	X	X	X	X			X		X	X	X	X			X							
Howesville Sites & Sandy Run Highwall & Portals	C	2	X	X	X	X			X		X	X	X	X			X							
Weaver Portals and Highwall, Phase I & II	C	2	X	X	X	X			X		X	X	X	X			X		P	P				
Abandoned Underground Mine Inventory and Risk Assessment Statewide Database Population	C	2						X	X								X				M	P	M	P
Wayne National Forest Abandoned & Inactive Mine Lands	C	2						X	X			X					X				M	M	P	P
Upper Coldwater Fork Stream Restoration	C	2								X		X	X	X		X								P
Oxford Mine Mitigation Monitoring	C	2						X	X	X				X		X					M	M	P	
Little Coal River Stream Restoration	C	2								X		X	X	X		X								
Little Coal Fish & Habitat Surveys	C	2										X	X	X		X								
Sauls Run Landslide	C					X					X						X			P				
Town of Newburg Waterline Extension Feasibility Study	C					X						X							P					
Racine (Bradshaw) Portals	C		X		X	X					X		X				X		P					
Hampton #4 Maintenance	C		X	X		X			X		X		X				X		P	P				
Lennox/Cuzzart Waterline Extension Project	C										X		X	X				M						
Hudson to Stateline Waterline Extension Project	C										X		X	X				M						

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.