



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

Solicitation

NUMBER
DEP16436

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
FRANK WHITTAKER
304-558-2316

RFQ COPY

TYPE NAME/ADDRESS HERE

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TERRADON Corporation, Inc.
 409 Jacobson Drive
 Poca, WV 25159

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ENVIRONMENTAL PROTECTION
 DEPARTMENT OF
 OFFICE OF AML&R
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

ORIGINAL

DATE PRINTED
03/20/2014

BID OPENING DATE: 04/10/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		
				MAURIN MINE FIRE & PORTALS DESIGN		
EXPRESSION OF INTEREST						
<p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ENGINEERING DESIGN SERVICES AND CONSTRUCTION MONITORING SERVICES AT THE MAURIN MINE FIRE AND PORTALS, MONONGALIA COUNTY, WEST VIRGINIA PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.</p>						
***** THIS IS THE END OF RFQ DEP16436 ***** TOTAL:						
04/10/14 09:44:11AM West Virginia Purchasing Division						

SIGNATURE <i>Muhammad U. Riaz</i>	TELEPHONE 304-755-8291	DATE 3/28/14
TITLE President	FEIN 55-068-7626	ADDRESS CHANGES TO BE NOTED ABOVE

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

CERTIFICATION AND SIGNATURE PAGE

By signing below, 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 or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

TERRADON Corporation, Inc.

(Company)

Muhammad U. Riaz

(Authorized Signature)

Muhammad Riaz, PE, President

(Representative Name, Title)

304-755-8291

304-755-2636

(Phone Number)

(Fax Number)

3/28/14

(Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DEP16436

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

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

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|---|--|
| <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.

TERRADON Corporation, Inc.

Company

Muhammad U. Riaz

Authorized Signature

3/28/14

Date

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

TERRADON CORPORATION

Engineering Planning Surveying

Expression of Interest for:

DEP16436 Maurin Mine Fire & Portals

Presented to: Mr. Frank Whittaker, Senior Buyer
Acquisitions Unit, WV Purchasing Division
for the West Virginia Department of Environmental Protection
Office of AML & R
601 57th Street SE
Charleston, WV 25304

April 10, 2014



Charleston, WV Area
P.O. Box 519
Nitro, WV 25143

Lewisburg, WV
425 North Jefferson Street
P.O. Box 1635
Lewisburg, WV 24901

Columbus, OH
167 South State Street
Suite 250
Westerville, OH 43081

Fayette Co., WV
PO BOX 307
Charlton Heights, WV
25040

ALL LOCATIONS Phone: 304.755.8291 Fax: 304.755.2636

terraddon.com

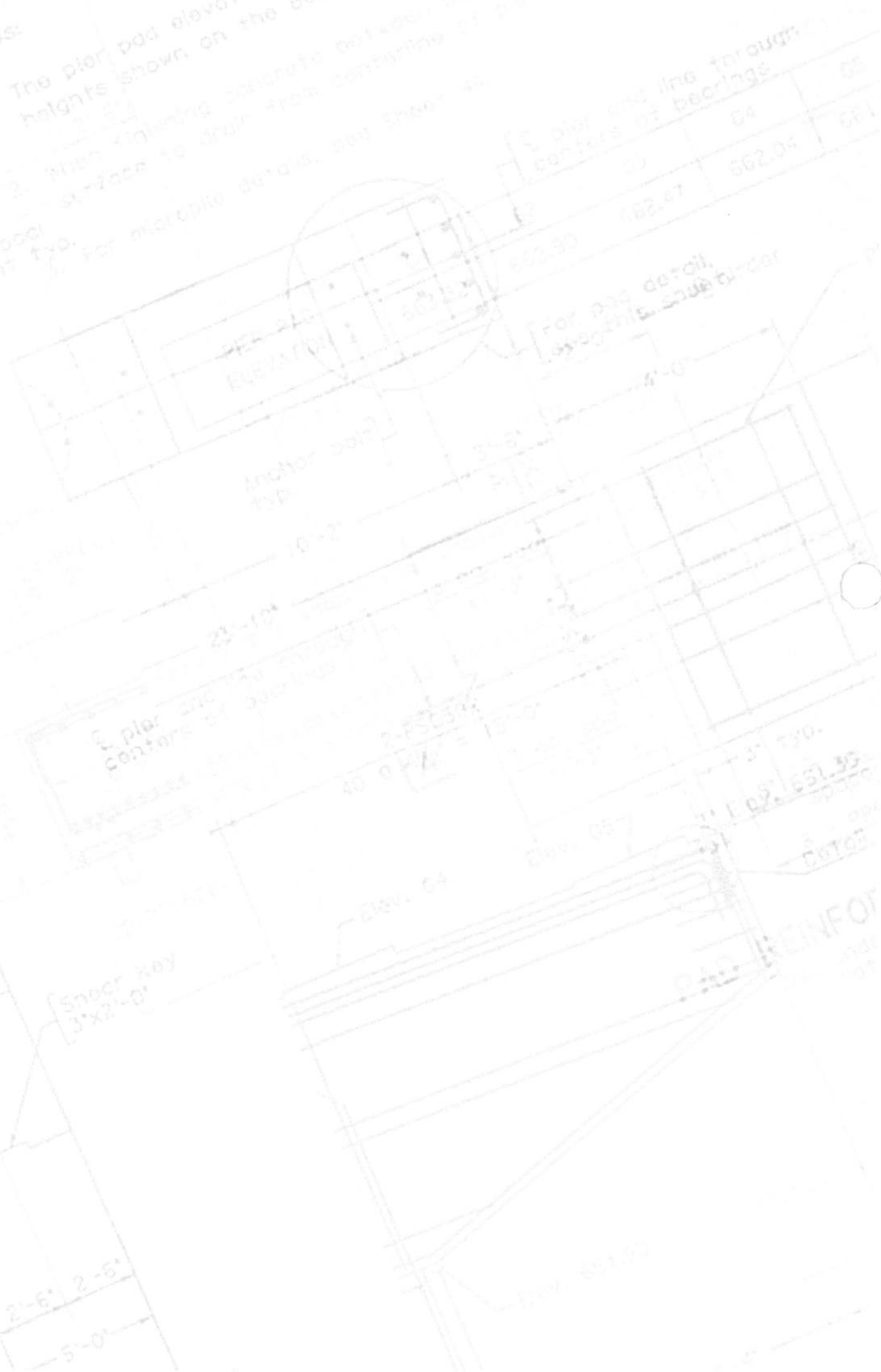
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CORPORATE OVERVIEW

Notes:

1. The pier pad elevations were determined based on the bearing heights shown on the Bearing Details Sheet 23.
2. When finishing concrete outdoors and beyond the pad, that a local surface to drain from containing it pier to north or east.



PAD REINFORCING

CORPORATE OVERVIEW

TERRADON Corporation offers a multi-faceted approach to design engineering and consulting services. For more than 20 years TERRADON staff has provided a wealth of engineering solutions blanketing West Virginia and the Appalachian region with successful projects. The company built its reputation on expert personnel and quality, time-sensitive service. Those same founding principles hold true today.

Staff includes engineers, landscape architects, surveyors, planners, environmental scientists, designers, technicians and LEED Accredited Professionals.

The company maintains approximately 75 leading-edge staff in three locations: Nitro/Poca, WV; Lewisburg, WV; and Columbus, Ohio. TERRADON'S eight departments work cohesively to provide turn-key solutions that strive to exceed client expectations.

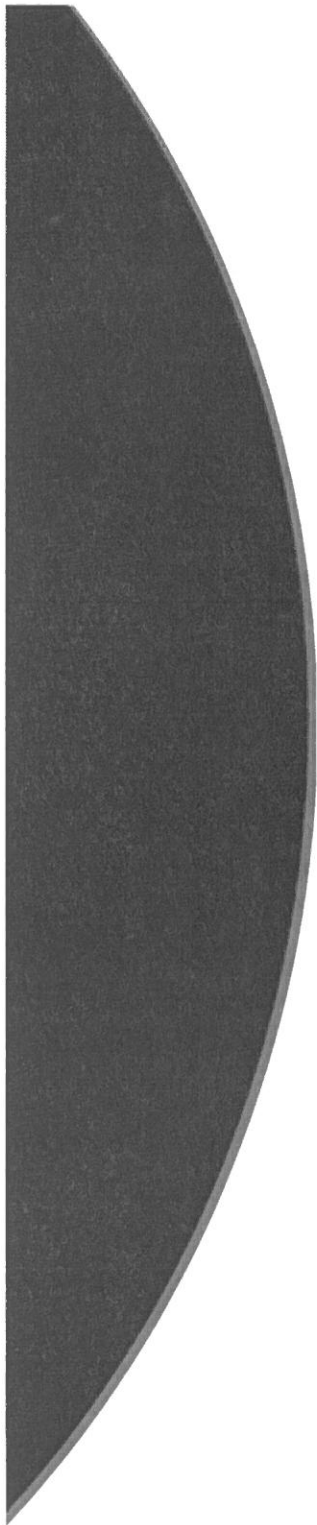
The family-owned business has built a strong reputation by providing flexible, cost effective design solutions and maintaining the highest level of customer service. TERRADON is particularly suited to design engineering within the mountainous areas of the Ohio Valley and Appalachian Regions. The firm has been recognized through numerous awards from professional organizations and agencies including the West Virginia Division of Highways, Department of Environmental Protection and the West Virginia Chapter of American Institute of Architects.

TERRADON's corporate culture promotes innovation and progressive thinking. Project leaders strive to sustain customers through a wide-range of engineering offerings. TERRADON employees understand the purpose behind their services and work to cultivate lasting relationships with clients through honest, hard work.

SERVICE OFFERINGS

- AML Design
- Civil Engineering
- Energy Services
- Land Planning & Site Design
- Environmental/Geotechnical
- Surveying & Mapping
- Materials Testing & Inspection
- Construction Monitoring
- Roadway and Bridge Design

EXPRESSION OF INTEREST



EXPRESSION OF INTEREST

TERRADON Corporation has prepared the materials of this expression of interest in accordance with the Request for Quotation (RFQ) issued by the State of West Virginia. For convenience, the following pages are arranged in order of the evaluation criteria listed in the RFQ.

TERRADON offers a professional and experienced staff to perform the tasks required for this project. TERRADON has been responsible for all aspects of numerous successfully completed Abandoned Mine Lands (AML) projects in recent years.

TERRADON maintains seven West Virginia Registered Professional Engineers in its Primary Charleston-area office, three in its Lewisburg-based office and one in its Charleton Heights-based office.

Total number of WV Registered Professional Engineers (Civil or Mining) in the Primary Office:

- Joe Saunders, PE
Project Manager/Engineer
- John James, PE
Project Engineer
- Jim Nagy, PE
Project Engineer
- Mike Pyles, PE
Project Engineer
- Muhammad Riaz, PE*
Project Engineer

Total number of WV Registered Professional Engineers (Civil or Mining) in the Lewisburg Office:

- Phil Reed, PE
Project Manager/Engineer
- Kristen McClung, PE
Project Engineer
- Andy Nutter, PE
Project Engineer

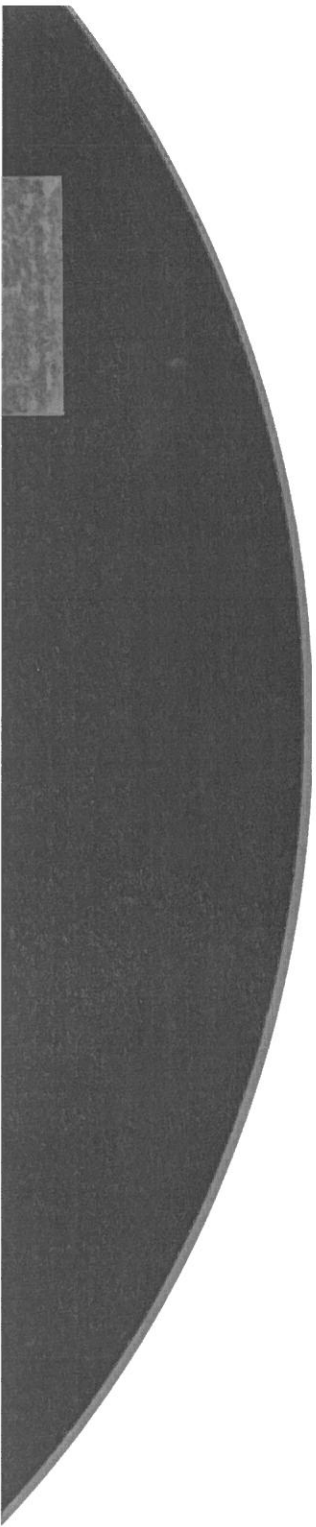
Total number of WV Registered Professional Engineers (Civil or Mining) in the Charlton Heights Office:

- Will Thornton, PE
Project Manager/Engineer

TERRADON also maintains one Professional Engineer and one Engineering Intern full-time in its Columbus, OH office.

*Muhammad Riaz spends approximately 50% of his time in the Charleston-Area office and 50% of his time in the Columbus, OH office.

RECLAMATION ENGINEERING DESIGN EXPERIENCE AS IT RELATES TO PROJECT PROBLEM AREAS



RECLAMATION ENGINEERING DESIGN EXPERIENCE AS IT RELATES TO PROJECT PROBLEM AREAS

TERRADON has extensive experience in both wet and dry mine seals, with or without bat gates. Our recent experience with Stonecoal Creek had more than two dozen mine seals, and Morgan Run had more than twenty as well.

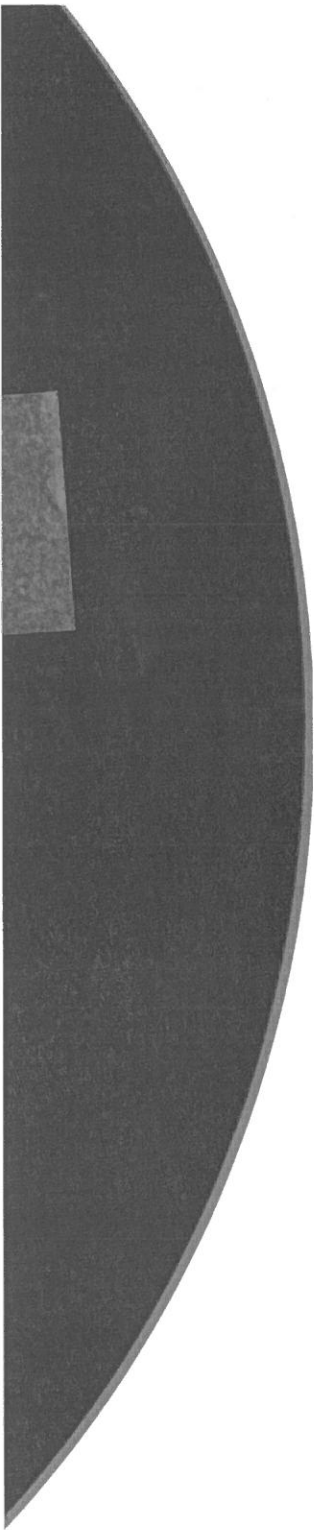
In addition, TERRADON has provided regrading services on numerous refuse piles and highwalls including Jenkin Jones, Micajah, Linger, Camp Mahonegan, Cedar Creek, Roaring Creek and Morgan Run. TERRADON has also provided regrading services on Tappers Creek, Gerath and Drews Creek Landslides. TERRADON also regraded more than 14 miles of highwall on the Garden Ground site in Fayette County.

TERRADON has experience with all facets of drainage associated with the majority of projects we have completed over the years, from acid mine drainage to basic conveyance of water from problem areas via channels, ditches and pipes. Our years of experience with AML problem areas, coupled with our quick response time to WVDEP/AML needs, makes TERRADON an excellent fit for any project.

RECENT PORTAL AND REFUSE EXPERIENCE

- MALLORY GIBSON PORTALS
- SHABBY ROOM HOLLOW COMPLEX
- GAINS HIGHWALL
- GARNER GROUNDS
- LILBURN-PRITT PORTALS
- ROARING CREEK
- MORGAN RUN PA #2
- HARRIS BRANCH
- STONECOAL CREEK COMPLEX
- DREW'S CREEK "A" HIGHWALL
- JENKIN JONES
- MACAJAH REFUSE
- CEDAR CREEK
- CARSWELL HOLLOW
- LOWER BURNING CREEK
- SARAH ANN (VANCE) DRAINAGE
- VENUS (HAMILTON) DRAINAGE
- GRASS RUN REFUSE
- SPRING BRANCH REFUSE
- BLACK WOLFE REFUSE
- ROARING CREEK
- TUPPERS CREEK
- GERATH LANDSLIDE
- NORTH VIEW MINE DRAINAGE
- HIGHLAND AVENUE
- KINGWOOD RT. 7 HIGHWALL

**AVAILABLE WV AML
DESIGN TEAMS**



AVAILABLE WV AML DESIGN TEAMS

TERRADON Corporation maintains the following personnel available to assign to the project. All personnel listed have previous design or inspection experience on AML projects.

TERRADON engineers have numerous resources within the company to draw on, such as surveying, geotechnical engineering, environmental engineering, landscape architecture, materials testing, and construction monitoring. This allows the project manager to control all phases of the design process, from initial site reconnaissance through construction.

PROJECT MANAGER

- William Joe Saunders, PE

Project Engineers

- Joe Saunders, PE
- John James, PE
- Will Thornton, PE, PS
- Jim Nagy, PE
- Bill Hunt, PG
- Mike Pyles, PE
- Phil Reed, PE
- Kristen McClung, PE
- Andy Nutter, PE

Engineering Technicians

- Mark Clutter

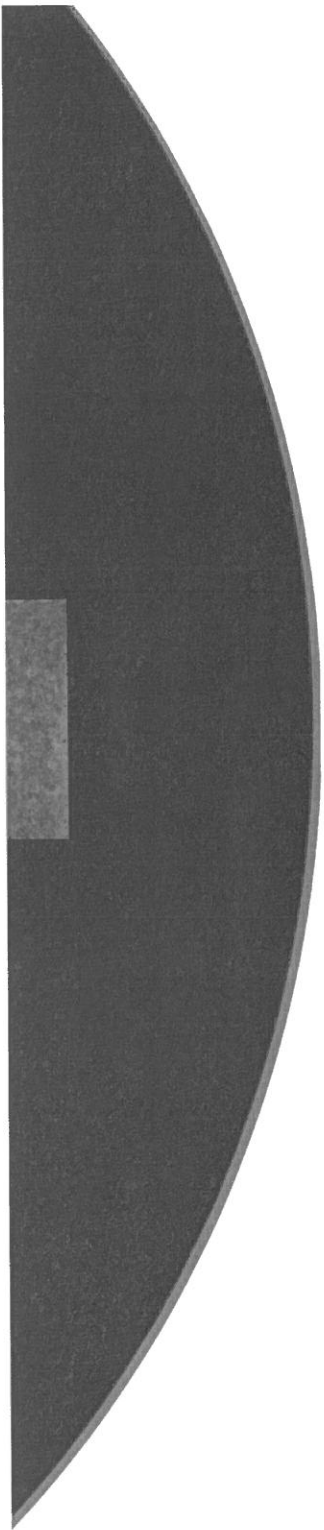
CAD Designers

- Bill Gerencir
- Earl Oldham

Surveyors

- Robert Thaw, PS
- Brian Bakanas, PS
- Randy Melton, PS
- Dave Brown, PS

LOCATION



LOCATION

OFFICE WHERE THE WORK WILL TAKE PLACE

Physical Address:
409 Jacobson Drive
Poca, WV 25159

Mailing Address:
PO Box 519
Nitro, WV 25143

Phone: 304-755-8291
Fax: 304-755-2636

TERRADON Corporation's primary office, where the work will take place, is centrally-located in Nitro, WV, near Charleston.

TERRADON's engineering reach easily extends throughout the State in regard to physical drive times, making projects in any area of West Virginia accessible in just a matter of hours. TERRADON also maintains offices in Charlton Heights, WV, Lewisburg, WV and Westerville (Columbus Area), Ohio.

Charlton Heights, WV

Mailing Address:
PO Box 307
Charlton Heights, WV
25040

Phone: 304-541-7655

Lewisburg, WV

Physical Address:
425 North Jefferson Street
Lewisburg, WV 24901

Mailing Address:
PO Box 1635
Lewisburg, WV 24901

Phone: 304-645-4636
Fax: 304-645-7614

Columbus, OH

Physical Address:
167 South State Street
Suite 250
Westerville, OH 43081

Mailing Address:
167 South State Street
Suite 250
Westerville, OH 43081

Phone: 614-392-2997
Fax: 614-392-2953

AML CONSULTANT QUALIFICATION QUESTIONNAIRE



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

Attachment "B"

PROJECT NAME DEP16436 Maurin Mine Fire & Portals		DATE (DAY, MONTH, YEAR) April 10, 2014		FEIN 55-0687626					
1. FIRM NAME TERRADON Corporation		2. HOME OFFICE BUSINESS ADDRESS 401 Jacobson Drive, Poca, WV 25159		3. FORMER FIRM NAME					
4. HOME OFFICE TELEPHONE (304) 755-8291	5. ESTABLISHED (YEAR) 1989	6. TYPE OWNERSHIP Individual <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Partnership <input type="checkbox"/> Joint-Venture <input type="checkbox"/>		6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>					
7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE 401 Jacobson Drive, Poca, WV 25159/ (304) 755-8291 / Muhammad Riaz, P.E., President/ 40 persons									
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Muhammad Riaz, P.E., President Virginia L. King, CEO			8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS						
9. PERSONNEL BY DISCIPLINE									
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%; vertical-align: top;"> 10 ADMINISTRATIVE — ARCHITECTS BIOLOGIST 3 CADD OPERATORS — CHEMICAL ENGINEERS 5 CIVIL ENGINEERS 8 CONSTRUCTION INSPECTORS 4 DESIGNERS — DRAFTSMEN </td> <td style="width: 25%; vertical-align: top;"> — ECOLOGISTS — ECONOMISTS — ELECTRICAL ENGINEERS 3 ENVIRONMENTALISTS — ESTIMATORS 1 GEOLOGISTS 2 HISTORIANS 2 HYDROLOGISTS </td> <td style="width: 25%; vertical-align: top;"> 3 LANDSCAPE ARCHITECTS — MECHANICAL ENGINEERS — MINING ENGINEERS — PHOTOGRAMMETRISTS 2 PLANNERS: URBAN/REGIONAL 2 SANITARY ENGINEERS 2 SOILS ENGINEERS — SPECIFICATION WRITERS </td> <td style="width: 25%; vertical-align: top;"> 1 STRUCTURAL ENGINEERS 5 SURVEYORS 1 TRAFFIC ENGINEERS 41 OTHER 60 TOTAL PERSONNEL </td> </tr> </table>						10 ADMINISTRATIVE — ARCHITECTS BIOLOGIST 3 CADD OPERATORS — CHEMICAL ENGINEERS 5 CIVIL ENGINEERS 8 CONSTRUCTION INSPECTORS 4 DESIGNERS — DRAFTSMEN	— ECOLOGISTS — ECONOMISTS — ELECTRICAL ENGINEERS 3 ENVIRONMENTALISTS — ESTIMATORS 1 GEOLOGISTS 2 HISTORIANS 2 HYDROLOGISTS	3 LANDSCAPE ARCHITECTS — MECHANICAL ENGINEERS — MINING ENGINEERS — PHOTOGRAMMETRISTS 2 PLANNERS: URBAN/REGIONAL 2 SANITARY ENGINEERS 2 SOILS ENGINEERS — SPECIFICATION WRITERS	1 STRUCTURAL ENGINEERS 5 SURVEYORS 1 TRAFFIC ENGINEERS 41 OTHER 60 TOTAL PERSONNEL
10 ADMINISTRATIVE — ARCHITECTS BIOLOGIST 3 CADD OPERATORS — CHEMICAL ENGINEERS 5 CIVIL ENGINEERS 8 CONSTRUCTION INSPECTORS 4 DESIGNERS — DRAFTSMEN	— ECOLOGISTS — ECONOMISTS — ELECTRICAL ENGINEERS 3 ENVIRONMENTALISTS — ESTIMATORS 1 GEOLOGISTS 2 HISTORIANS 2 HYDROLOGISTS	3 LANDSCAPE ARCHITECTS — MECHANICAL ENGINEERS — MINING ENGINEERS — PHOTOGRAMMETRISTS 2 PLANNERS: URBAN/REGIONAL 2 SANITARY ENGINEERS 2 SOILS ENGINEERS — SPECIFICATION WRITERS	1 STRUCTURAL ENGINEERS 5 SURVEYORS 1 TRAFFIC ENGINEERS 41 OTHER 60 TOTAL PERSONNEL						
<p>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>7</u></p> <p>*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.</p>									
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO									

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

YES Description and Number of Projects: 50 Projects for WVDEP/AML&R

NO

B. Are your firm's personnel experienced in Soil Analysis?

YES Description and Number of Projects: 35 WVDEP/AML&R projects included some soil analysis. TERRADON provides geotechnical engineering on a wide variety of projects, including dams, highways, bridges, etc.

NO

C. Are your firm's personnel experienced in hydrology and hydraulics?

YES Description and Number of Projects: 35 WVDEP/AML&R projects included hydrology and hydraulics.

NO

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

YES Description and Number of Projects: _____

NO We routinely provide photo control surveys and field edit the mapping provided.

E. Are your firm's personnel experienced in domestic waterline design? (Include any experience in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: 9 WVDEP/AML&R projects included the evaluation of aquifer degradation as a result of mining. Four of those projects have been designed and constructed. TERRADON has also designed

NO hundreds of miles of waterline in the last 5 years.

F. Are your firm's personnel experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: 5 WVDEP/AML&R projects included acid mine drainage evaluation and abatement. In addition, TERRADON was 1 of only 2 firms evaluating and designing AMD abatement of special

NO reclamation projects in 1992, 1993 and 1994.

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
James, John W. P.E. Senior Geotechnical Engineer	11	33	9

Brief Explanation of Responsibilities

Geotechnical Project Manager for TERRADON Corporation. Responsible for contract administration and project management; peer review of design, construction drawings and specifications; constructability review and construction cost estimates.

EDUCATION (Degree, Year, Specialization)

B.S., 1968, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (Past President, WV Section)

REGISTRATION (Type, Year, State)

P.E., 1973, WV

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Saunders, William "Joe", P.E.	2	21	21

Brief Explanation of Responsibilities

Primary Project Manager for and Engineer. Responsible for project oversight and overall delivery. Will be design engineer for all elements of the project and ensure compliance with all local, state and federal requirements.

EDUCATION (Degree, Year, Specialization)

B.S., 1998, Civil Engineering, West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

ACEWV

REGISTRATION (Type, Year, State)

P.E., 2001, West Virginia, P.E., 2005, North Carolina

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Gerencir, William Senior CAD Designer	20	23	20

Brief Explanation of Responsibilities
 Mr. Gerencir is responsible for CAD design, including site layout, grading, stream alignments. Plan, cross section, and detail sheet preparation. Quantity Takeoffs, Calculation Briefs and additional design related tasks.

EDUCATION (Degree, Year, Specialization)
 A.S., 1989, Civil/Surveying Engineering Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS N/A	REGISTRATION (Type, Year, State) N/A
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brown, David A., P.S. Professional Surveyor	9	15	7

Brief Explanation of Responsibilities
 Responsible for all aspects of surveying, including photogrammetry control, if required, field editing of mapping, topographic mapping, establishment of survey control monuments and establishing base lines for construction layout and quantity measurement. Also, tax map overlays and detailed property clarifications.

EDUCATION (Degree, Year, Specialization)
 B.S., 1996, Engineering Technology
 West Virginia Association of Land Surveyors
 P.S., 2003, WV P.S., 2008, TN

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

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES

Software:	Autodesk 2010 Civil 3D
	SedCad 4 - Erosion Control and Hydrology Software
	Haested Method Flowmaster Software for Channel Design
	Haested Method - Water CADD (Pipe Network Analysis)
	Slope Stability -
	PC Stable
	REAME
	SBSLOPE
	WinStable and WinStable 2003
	Piling Walls, Anchors and Reinforced Earth Walls -
	Lpile
	HeliCAP
	Anchor 400
	KeyWall 2004
	TR 55, TR 20, TR 66 (Sites) - Hydrology
	Hec-1, Hec HMS 2.22, HEC R As 3.1.2 - Hydrology
	LC 58 + RP 61 - Structural (wall)
	Microstation V8
Surveying Equipment:	Trimble 4700 modular, RTK Global Positioning Total Station
	Trimble Geomatics Office Software
	Topcon Total Stations (3)
	SMI Data Collectors (3)
Printing/Plotting/Reproduction:	HP DesignJet T1120
	HP DesignJet 1050C Plotter (2)
	HP LaserJet 8000 Printer (2)
	HP Color LaserJet 3700
	HP Color LaserJet 5500
	Sharp AR-550 Copier/Printer (2)
	Sharp AR-C150 Full Color Copier/Printer
	Oce 7056 Engineering Size Copier

15. PRESENT ACTIVITIES ON WHICH YOU ARE THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Manila Ridge Extension Engineering Poca, WV	Putnam County Commission 3389 Winfield Road Winfield, WV 25213	104,000.00	100%
Manila Ridge Extension Inspection Poca, WV	Putnam County Commission 3389 Winfield Road Winfield, WV 25213	90,000.00	0%
WV Air National Guard Design/Inspection Charleston, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	201,615.00	98%
Lilbern Pritt Highwall Design Junior, WV	WVDEP/AML&R 601 57th Street SE Charleston, WV 25304	141,855.00	70%
Mallory (Gibson) Portals Design Mallory, WV	WVDEP/AML&R 601 57th Street SE Charleston, WV 25304	70,844.00	95%
Montgomery 6th Ave. Pump Station Montgomery, WV	Sanitary Board Of Montgomery 706 Third Avenue Montgomery, WV 25136	162,200.00	0%
Ham Sanitary Landfill - Peterstown WV	HAM Sanitary Landfill P.O. Box 576 Peterstown, WV 24963	157,500.00	80%
Northern Wayne County PSD Engineering Wayne, WV	Northern Wayne County PSD P.O. Box 775 Lavallette, WV 25535	29,500.00	80%
Upper Glade Creek Dam Improvements	Beckley Water Company Po Box 2400 Beckley, WV 25802-2400	35,000.00	85%
TOTAL NUMBER OF PROJECTS: 9		TOTAL ESTIMATED CONSTRUCTION COSTS: \$	

16. PRESENT ACTIVITIES ON WHICH YOU ARE ASSOCIATED WITH OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Project Arrow Glen Jean, WV	Utility Design	Trinity Works, LLC 411 Main Street Suite 210 Mount Hope, WV 25880			889,250.00
Project Arrow Glen Jean, WV	Summit Center Utilities Design	Trinity Works, LLC 411 Main Street Suite 210 Mount Hope, WV 25880			55,000.00
Project Arrow Glen Jean, WV	Construction Phase Engineering Services	Trinity Works, LLC 411 Main Street Suite 210 Mount Hope, WV 25880			285,000.00
Project Arrow Glen Jean, WV	AT&T Cell Tower Conduit	Trinity Works, LLC 411 Main Street Suite 210 Mount Hope, WV 25880			55,000.00
Moorefield High School Moorefield, WV	Site Design	Williamson Shriver Architects 717 Bigley Avenue Charleston, WV 25302	2014		1,000,000.00
East Hardy High School	Site Design	Williamson Shriver Architects 717 Bigley Avenue Charleston, WV 25302	2014		1,000,000.00
Fairmont Office Building	Site Design	OMNI Associates 1543 Fairmont Avenue Suite 201 Fairmont, WV 26554	2014		1,500,000.00
Advanced Technology - Advantage Valley South Charleston, WV	Site Design	E.T. Boggess 101 Rockledge Avenue Princeton, WV 24740	2014	15,000,000.00	1,000,000.00
WV Northern ATC	Site Design	E.T. Boggess 101 Rockledge Avenue Princeton, WV 24740	2014	15,000,000.00	1,000,000.00

17. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Diana Extension Webster Springs, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	262,000.00	2009	Yes
Putnam County 2007 Extensions Putnam County, WV	Putnam County Commission 3389 Winfield Road Winfield, WV 25213	438,000.00	2007	Yes
Derrick's Creek Ridge Extension Sissonville, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	142,000.00	2008	Yes
Montgomery WWTP Upgrade – Bidding Montgomery, WV	Sanitary Board Of Montgomery 706 Third Avenue Montgomery, WV 25136	211,000.00	2008	Yes
KCRDA 2009 Construction Phase Sissonville, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	282,000.00	2010	Yes
Pedestrian Bridge-Freyssinet Glen Jean, WV	Freyssinet, Inc. 44880 Falcon Place Suite 100 Sterling, VA 20166	210,052.95	2012	Yes
Sleethes Run Bridge Replacement Lewis County, WV	WV Division of Highways 1900 Kanawha Boulevard, East Charleston, WV 25305	284,254.00	2007	Yes
Beckley - New Roadway Beckley, WV	International Coal Group 300 Corporate Centre Drive Scott Depot, WV 25560	187,000.00	2007	Yes
City Beer Bridge on I-77 Bridge Replacement Project Wood County, West Virginia	WVDOT Building 5, Room A-110 1900 Kanawha Blvd. East Charleston WV 25305	6,000,000.00	2011	Yes
AEP-Gavin Plant Sed Pond #2 Expansion Cheshire, WV	American Electric Power 1530 Winfield Road Winfield, WV 25213	188,000.00	2011	Yes

Walgreens – Hurricane Hurricane, WV	Ed Street Company 2513 Wesley Street, Suite 4 Johnson City, TN 37601	129,000.00	2007	Yes
Black Diamond Ranch New Castle, VA	Hunter Company of WV 471 B&O Overpass Road Hedgesville, WV 25427	135,000.00	2007	Yes
Walgreens – Charleston Charleston, WV	NU Rental, LLC 2513 Wesley Street, Suite 4 Johnson City, TN 37601	136,500.00	2007	Yes
Beech Ridge Energy Design & Surveying Williamsburg, WV	White Construction, Inc. P.O. Box 249 Clinton, IN 47842	264,000.00	2009	Yes
Sarah Ann (Vance) Drainage Logan County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	600,000.00	2009	Yes
Venus (Hamilton) Drainage AML Reclamation Design McDowell County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	200,000.00	2011	Yes
Draws Creek Highwall AML Reclamation Design Raleigh County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	500,000.00	2011	Yes
Kingwood Route 7 Highwall AML Reclamation Project Preston County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	350,000.00	2011	Yes
Robinette Branch Refuse Pile AML Reclamation Design Logan County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	814,000.00	2011	Yes
Garden Ground AML (Phase 1) AML Reclamation Design Fayette County, WV	WVDEP/AML&R 601 57 th Street SE Charleston, WV 25304	573,000.00	2009	Yes
Garden Ground (Phase 2) AML Reclamation Project Fayette County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	7,200,000.00	2009	Yes
Harris Branch Refuse Pile Design AML Reclamation Project McDowell County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	150,000.00	2010	Yes
Shabbyroom Hollow Complex AML Reclamation Project McDowell County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	750,000.00	2010	Yes
Gains Highwall AML Reclamation Project Harrison County, WV	WVDEP/AML&R 601 57 TH Street SE Charleston WV 25304	450,000.00	2011	Yes

18. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE ASSOCIATED WITH OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)					
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
WVARNG Eleanor Access Road Surveying & Roadway Design Eleanor, West Virginia	WV Army National Guard 1740 Coonskin Drive Charleston WV 25311	\$300,000	2009	Yes	Williamson Shriver Architects
Project Arrow - Shower House Utility Rev Glen Jean, WV	Trinity Works 2128 Mistletoe Boulevard Fort Worth, Texas 76110	230,000.00	2011	Yes	Arrow WV, Inc.
Project Arrow - Construction Phase Engineering Services Glen Jean, WV	Trinity Works 2128 Mistletoe Boulevard Fort Worth, Texas 76110	285,000.00	2011	Yes	Arrow WV, Inc.
Project Arrow - Logistics Center/Welcome Center Utility Design Glen Jean, WV	Trinity Works 2128 Mistletoe Boulevard Fort Worth, Texas 76110	146,800.00	2011	Yes	Arrow WV, Inc.
Pikeview Middle School Site/Civil, Survey Mercer County, West Virginia	Mercer County Public Schools 1403 Honaker Avenue Princeton, WV 24740	\$5,000,000	2009	Yes	E.T Boggess Architects
Fairmont State University Campus Improvements Fairmont, West Virginia	Fairmont State University 1201 Locust Avenue Fairmont, WV 26554	\$1,000,000	2007	Yes	Omni Associates
Moorefield Intermediate School Moorefield, West Virginia	Hardy County BOE 510 Ashby Street Moorefield, WV 26836	\$12,000,000	2008	Yes	Williamson Shriver Architects
Mountain View Elementary Scott Depot, West Virginia	Putnam County BOE Winfield, WV 25213	\$2,000,000	2008	Yes	Williamson Shriver Architects
Project Arrow - NPDES Glen Jean, WV	Trinity Works, LLC 411 Main Street Suite 210 Mount Hope, WV 25880	350,000.00	2010	Yes	Arrow WV, Inc.

Allegheny Energy - Fairmont, WV	First Energy Corp. 2800 Pottsville Pike Reading, PA 19605	\$15 Million	2008	Yes	OMNI Associates
Mingo Central High - 2 Matewan, WV	Mingo County BOE Sycamore Street Williamson, WV 25661	\$13 Million	2008	Yes	Williamson Shriver Architects
Jefferson Elementary Parkersburg, WV	Wood County Board of Education 1210 13th Street Parkersburg, WV 26101	\$10 Million	2008	Yes	Williamson Shriver Architects
Pikeview Middle School Princeton, WV	Mercer County Public Schools 1403 Honaker Avenue Princeton, WV 24740	\$12 Million	2008	Yes	E.T. Boggess
Greenbrier West High (LD) Charmco, WV	Greenbrier County Schools 202 Chestnut Street Lewisburg, WV 24901	\$12 Million	2009	Yes	E.T. Boggess
WV Northern Advanced Technology Center	WV Higher Education Policy Commission 1018 Kanawha Boulevard, East, Suite 700 Charleston, WV 25301	\$15,000,000	2014	Yes	ET Boggess Architects

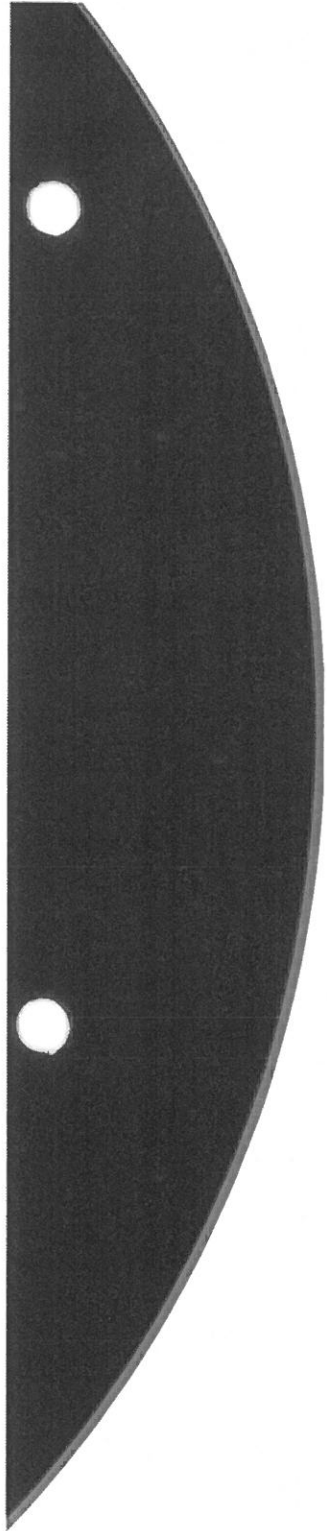
19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Division of Highways.

20. The foregoing is a statement of facts.

Signature: Muhammad U. Riaz Title: President Date: 3/28/14
 Printed Name: Muhammad U. Riaz

NOTE: THIS DOCUMENT WILL BECOME VOID AFTER DECEMBER 31 IN CALENDAR YEAR OF DATE HEREON.

AML AND RELATED PROJECT EXPERIENCE MATRIX



DEP16436 Maurin Mine Fire & Portals

TERRADON AML and RELATED PROJECT EXPERIENCE MATRIX																						
PROJECT NAME	Exp. Basis C=Corp. P=Personal *	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE													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	Siream Restoration	Geotechnical/Stability	Joe Saunders, PE	John James, P.E.	Bill Gerencir	Dave Brown, P.S.	Kevin Sarrett
Mallory Gibson Portals	C/P	yes						X			X				X		X	M/P	M/P	P	P	P
Roaring Creek #4	C	yes	X					X			X					X	X		P	P	P	P
Stonecoal Creek Complex	C	no		X	X	X					X			X	X	X			P	P	P	
Stonecoal Creek Complex #2	C	no		X	X	X					X			X	X	X			M/P	P		
Stonecoal Creek Complex #3	C	no		X	X	X					X			X	X	X			M/P	P		
Jenkin Jones	C	no	X	X	X	X	X				X					X	X		M/P	P	P	
Micajah Refuse Pile	C	no	X	X	X	X	X	X			X	X				X	X			P	P	
Carswell Hollow (Smith) Refuse	C	no		X		X					X	X		X	X					P	P	
Cedar Creek Refuse	C	no		X	X	X	X				X			X		X				P	P	
Spring Branch Burning Refuse Pile	C	no		X		X	X	X			X					X				P	P	
Grass Run Refuse (Award Winner)	C	no	X	X	X	X	X				X	X	X	X	X	X				P	P	
Black Wolfe Refuse	C	no		X	X	X	X				X	X		X	X	X				P	P	
Lower Burning Creek Refuse	C	no		X	X	X	X				X	X		X	X	X				P	P	
Morgan Run PA #2	C	no	X		X	X		X			X			X		X				P	P	P
Drews Creek "A" Highwall	C	no	X		X	X					X					X				P	P	P
Venus (Hamilton, R) Drainage	C	yes	X		X	X					X									P	P	P
Sara Ann (Vance) Drainage	C	yes	X		X	X					X			X		X				P	P	P
Garden Ground Highwall 1	C	yes	X	X	X	X					X			X		X				P	P	P
Garden Ground Highwall 2	C	yes	X	X	X	X					X			X		X				P	P	P
Harris Branch Refuse Pile	C	yes	X		X						X			X		X				P	P	P
Kingwood Rt. 7 Highwall	C	yes	X	X	X	X					X			X		X				P	P	P
Shabbyroom Hollow Complex	C	yes	X	X	X	X					X			X		X				P	P	P
Robinette Branch Refuse	C	yes	X	X	X	X					X			X		X				P	P	P
Gains Highwall	C	yes	X	X	X	X					X			X		X				P	P	P
Lillbern-Pritt	C	yes	X			X					X	X				X			M/P	P	P	P

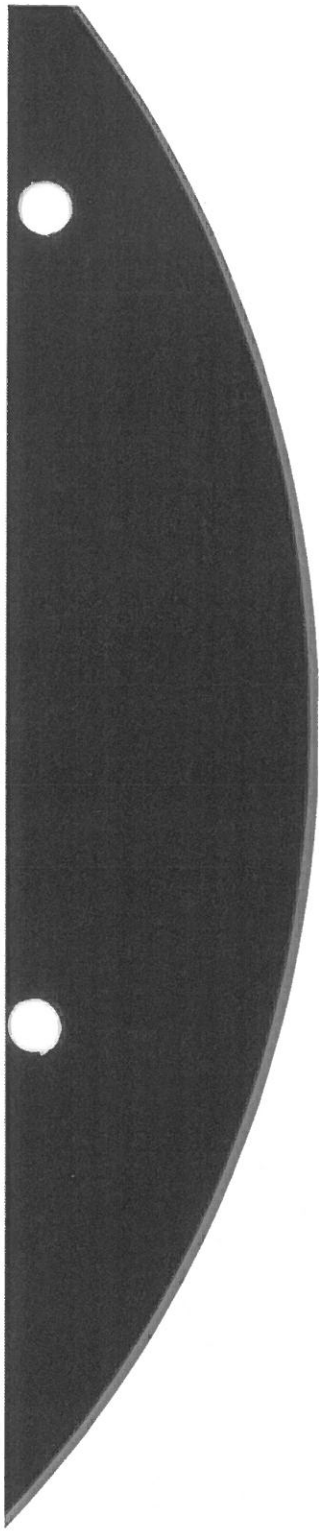
* List whether project experience is corporate or personal based or both.

** 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.



RELEVANT PROJECT EXAMPLES



RELEVANT PROJECT EXAMPLES

Conley Branch (Whitt) Landfill

This complicated project included nearly 600 linear feet of stream bank restoration, one large draining mine portal with approximately 200 linear feet of channel construction, one cistern for local residential water supply, and two dry mine seals. The complicated portion of the project was the stream bank restoration, and difficulty resulted from the requirement to maintain an existing bench at the top of the stream bank area. The stream bank restoration project was necessary because of an existing steep slope comprised of mine spoil and refuse that was reeling into the creek below. In order to stabilize the mine spoil and refuse, the stream bank had to be lined with large rip rap up to 25' in elevation, in conjunction with regrading the steep slope above the rip rap up to the bench elevation. The stream bank/slope stabilization portion of the project required in excess of 2500 cubic yards of rip rap.

Pierpont Refuse Pile

This project involved reclaiming an existing steep slope piled high with mine spoil/refuse, which was reeling into the creek below. The project consisted of regrading the steep slope (approximately 1 to 1) to a flatter, more stable slope, and back stacking the old abandoned high wall in the vicinity with the material gathered from regrading the slope. Additionally, there were several wet and dry mine seals in the area that required bat gate mine seals. The draining portals and existing bench drainage was collected into channels that were constructed on the bench, and the channels were designed to flow to an existing groin running down the mountain to the stream below. Because the dry mine seals on the project had the potential to impound water in the future, drains for the dry mine seals were installed, and the drains were designed to run to the bottom of the refuse pile, where and accumulated drainage could run to the creek below without washing over the refuse pile. It was necessary to take the drains to the toe of the slope because the elevation of the mine seals was below that of the channels constructed on the bench in front of the existing high wall.

Lillbern-Pritt

The Lillbern-Pritt Highwall Project is located in Barbour County, West Virginia, near the town of Junior. The site consists of a total of six highwalls, and in the initial design phase, areas of wetlands had to be delineated in order to avoid disturbance of any wetland area. Several wetland areas were defined in the project, and as a result, a significant portion of highwall 1 was left un-reclaimed, along with all of highwall 2, highwall 4, and highwall 5. Additional work included a retaining wall study, along with ditch design to carry mine conveyance to eliminate a foundation problem at a nearby residence at highwall 1, and soil cover over mine refuse leading to a large wetland at highwall 5. For the retaining wall design study several alternatives to reclaim a very difficult site immediately behind a residence were investigated. Alternatives included soil nails, rock anchors, wire net draping, reinforced concrete retaining walls, and gabion basket retaining walls. Considerations for the study were cost, constructability, and future maintenance.

The preferred alternative to the study was the soil nail/rock anchor wall at highwall 1, because there was no room to regrade and stabilize the soil behind and existing residential structure. Because of the limited space, regrading was not an option, and both cast in place retaining walls and gabion basket retaining walls had both space constraints and maintenance concerns, in addition to drainage concerns that could not be addressed with conventional retaining wall solutions. The soil nail/rock anchor system was designed to stabilize the failing slope while providing minimal disturbance to the structure, while at the same time providing a long term and essentially maintenance free project for the WVDEP, and allowing enough room between the soil nail/rock anchor face and structure to allow for drainage channels to be constructed. After work was begun in the area of highwall 3, an existing county route was discovered which runs along the bench in front of highwall 3. The county route location was not clearly defined, but according to deeds for the properties adjacent to the county route, the county route served as a property boundary. Reclaiming the refuse and correcting steep slopes on the refuse in the vicinity of the wall was going to require disturbing the county route, and possibly relocation, and as a result the correct location of the county route had to be determined in order to re-establish property lines at the conclusion of the project.

RELEVANT PROJECT EXAMPLES

Shabbyroom Hollow Complex

The Shabbyroom Hollow project was an approximately 10 acre complex located along Shabbyroom Branch in McDowell County, West Virginia, near the community of Roderfield. The site consisted of two coal refuse piles and several mine portals in various conditions, including collapsed portals, open portals and draining mine portals. Both refuse piles had areas of steep, unstable and barren slopes and were the primary source of high sediment loads to Shabbyroom Branch. The subsequent sediment deposits in Shabbyroom Branch resulted in a significant reduction of the flow carrying capacity of Shabbyroom Branch, and if the refuse piles collapsed into the adjacent stream, significant flooding would have occurred. The open mine portals were easily accessible and represented a significant life safety hazard from roof falls, potentially deadly gases and other hazards. The draining mine portals were in danger of collapsing and stopping the dewatering of the mine openings, potentially leading to catastrophic blowouts and subsequent downstream flooding. Several residents were also using the draining portals as their primary water source. The purpose of this reclamation program was to regrade the refuse piles to stable slopes, provide proper stabilization with vegetative cover and permanent drainage channel improvements, and safely seam the open and draining mine portals. Generally, refuse piles were regraded to stable slopes and permanent drainage patterns were established. A 60" pipe was necessary to carry the creek at one of the refuse piles to regrade the refuse pile in-place, as opposed to hauling material to a waste area off site. Where refuse piles toe into the creek, stream bank protection was provided. All mine portals were closed with an appropriate mine seal. Bat gates were also installed in all of the open mine portals. Underdrains and mine drain systems were installed to alleviate wet areas in several residents' yards. Several cisterns were installed to enable residents to continue to utilize the mine water as their primary source of water where necessary. All disturbed areas were revegetated or otherwise stabilized with structural methods.

Gains Highwall Project

The Gains Highwall project consisted of three sites located in Harrison County, West Virginia, near the city of Clarksburg. The site occupied approximately 17 acres of conglomerate land area. The purpose of this reclamation program was to regrade the refuse pile and highwall to stable slopes, provide proper stabilization, with vegetative cover and permanent drainage channel improvements and safely seal the open draining and surcharging mine portals. Generally, the refuse pile was regraded to stable slopes and permanent drainage patterns were established. The highwall was regraded to a stable slope by breaking down the top of the highwall and encapsulating the weathered shale strata to prevent further weathering and collapse of the sandstone strata above.

Permanent drainage patterns were established. The slip area was regraded to stable slopes and permanent drainage patterns were established. The mine portal contributing the saturation of the slip area was allowed to dewater by installing a horizontal bore. All mine portals were closed with an appropriate mine seal and several horizontal bores were installed to provide permanent and controlled dewatering and permanent drainage patterns were established. Bat gates were also installed in all of the open mine portals. Underdrains, drop inlets and Mine drain systems were installed to alleviate wet areas in several residents' yards. The subsidence area was repaired and a stable drainage channel was provided to alleviate surcharging of the mine workings. Several areas of scattered refuse were soil covered and seeded. All disturbed areas were revegetated or otherwise stabilized with structural methods.

RELEVANT PROJECT EXAMPLES

Mallory (Gibson) Portals

The Mallory (Gibson) Portals project was located in Logan County, near the town of Mallory. This project consisted of 57 portals that needed to be sealed, two of which were draining and required ditch design to carry the mine drainage to a stream below the mine portals. Many of the mine portals appeared to be shallow openings which may have originally been used for house coal, but more than half of the portals were deep. Nearly all the mine portals received mine seals with bat gates, but a few of the very shallow portals received mine seals without bat gates. In addition to the mine seals, two gas lines had to be relocated to allow access to the project site. Below the portals, in the town of Mallory, underdrain was installed to correct wet areas on residences properties. Also in the town of Mallory two major culverts were designed to replace existing pipes that were collapsed or filled with sediment. In order for the culverts to be replaced, existing waterline had to be relocated and guardrail had to be installed on either end of the two major culverts. At the beginning of the design, a drainage study was performed to compare culverts against open channel reconstruction for a portion of the watercourse through the town. In the existing condition, two culverts were used to carry the stream under two roads. Our scope of services included replacing the two pipes, but there was an area between the two pipes that was an open channel. The drainage study compared alternatives and costs of the for the area between the two culverts.

Garden Ground Highwalls – Phase 1 and 2

The Garden Ground Highwalls – Phase 1 and 2 projects were located in Fayette County, West Virginia, near the Community of Glen Jean. The projects contained several sites occupying approximately 433 acres of conglomerate land area consisting of approximately 12 miles of dangerous highwall. The highwalls ranged in height from 20 to 70 feet. The slopes were steep and property owners were concerned about the possibility of falling debris. The sites also consisted of several coal refuse piles and in excess of 100 mine portals in various conditions, including collapsed portals, open portals and draining mine portals. The refuse piles had areas of steep, unstable and barren slopes that were a primary source of high sediment load to the surrounding streams. The open mine portals were easily accessible and represented a significant life safety hazard from roof falls, potentially deadly gases and other hazards. The draining mine portals were in danger of collapsing and stopping the dewatering of the mine openings potentially leading to catastrophic blowouts and subsequent downstream flooding. Dangerous mine structures also existed on several of the sites. Several dangerous impoundments also existed on the sites. These dangerous impoundments could potentially collapse leading to catastrophic downstream flooding.

The purpose of the reclamation program was to regrade the highwalls to a stable slope by using the available mine spoil that existed on the adjacent strip benches or by breaking down the highwall where available mine spoil quantities were insufficient. Very few highwalls had to be broken down as the available mine spoil was of sufficient quantity in most cases. Proper stabilization, with vegetative cover and permanent drainage channel improvements were provided. Generally, the refuse piles were regraded to stable slopes, soil was covered and seeded and permanent drainage patterns were established. All of the dangerous impoundments were drained in a controlled manner and the soft bottom material was mucked out and allowed to dry. A rock blanket was then provided in the bottom of the impoundments and the dried material was then utilized in the backfilling of the impoundments and highwalls. All mine portals were closed with an appropriate mine seal. Bat gates were also installed in all of the open mine portals. Underdrains and Mine drain systems were installed to alleviate wet areas, impoundments and further saturation of highwall backfill areas. The dangerous mine structures were removed and disposed of at an approved landfill. Several barren areas of scattered refused were also soil covered and seeded. All of the required erosion and sediment control measures were installed prior to construction. Additional erosion and sediment control measure were installed and maintained during construction. All erosion and sediment control structures were removed after construction, once vegetation was reestablished. All disturbed areas were revegetated or otherwise stabilized with structural methods.

RELEVANT PROJECT EXAMPLES

Sarah Ann (Vance)

Sarah Ann (Vance) was a project located along Conley Branch near Sarah Ann in Logan County. The site was comprised of open and collapsed draining portals, as well as an area that consisted of a slide. TERRADON provided additional surveying to include the new slide that had developed on the site. The company identified 24 portals: 8 that required wet or dry seals, along with 9 bat gate dry seals, 6 rip rap chutes and 3 cisterns. The project was completed during the summer of 2011.

Roaring Creek #4

The site consisted of surface mine spoil material that was cast to the outslope and not reclaimed to the original contour. Large areas of unvegetated spoil were found throughout the site. Also, large erosion gullies had developed in several areas, which caused spoil and fines to wash into Roaring Creek. The landowner, Marshall Walls, raised horses and he was very concerned about the highwalls and spoil areas. One horse broke its leg and had to be destroyed. Mr. Walls has two small children, and he was concerned about their safety on the areas of the farm that was mined. The 63 acre site was graded in the design phase to remove the highwalls and revegetation was included in the design. In addition, all drainage on the site was directed to new channels and conveyed away from the problem areas. Underdrain was also utilized in the design.

Morgan Run PA #2

The Morgan Run PA #2 project consisted of 2 sites that are located in Preston County, West Virginia, near the community of Albright. The two sites were separated by Morgan's Run. The project occupied approximately 8 acres of conglomerate land. Two refuse piles had areas of steep, unstable and barren slopes and sediment from the piles was being washed into adjacent road side ditches. The project also has 19 mine portals in various conditions, including collapsed portals, open portals and draining mine portals. The open mine portals were easily accessible and represented a significant life safety hazard from roof falls, potentially deadly gases and other hazards. The draining mine portals were in danger of collapsing and stopping the dewatering of the mine openings potentially leading to catastrophic blowouts and subsequent downstream flooding. Several drainage culverts on the project were severely eroded by the AMD discharging from the draining portals and would need to be replaced. An artesian well, discharging low pH AMD also exists on the project. Several areas of scattered refuse exist on the project. Old abandoned building ruins are present on site and present a hazard to the local population also. Areas of scattered trash and debris exist on the project as well. The purpose of the reclamation program was to regrade the two coal refuse piles to stable slopes, provide proper stabilization with vegetative cover and permanent drainage channel improvements, and safely seal the open and draining mine portals. Generally, the refuse piles were regraded to stable slopes and permanent drainage patterns were established. On site soil borrow areas were utilized to obtain the necessary soil cover material required. Access to the site isolated by Morgan's run was achieved by installation of a temporary stream crossing. The stream crossing was removed after construction activities were completed. All mine portals were closed with an appropriate mine seal and several wet seals were installed to provide permanent and controlled dewatering and permanent drainage patterns were established. Bat gates were also installed in all of the open mine portals. A sloping bat gate was installed in one of the mine portals in a 10 to 15 foot deep depression.

The artesian well was stabilized and the low PH AMD was treated with a limestone blanket surrounding the well. All trash and debris were disposed of at an approved landfill. Several areas of scattered refuse were soil covered and seeded. Abandoned building ruins were demolished and disposed of at an approved landfill. Some of the Stone building material was able to be disposed of on site in a rubble disposal area. All of the required erosion and sediment control measures were installed prior to construction. Additional erosion and sediment control measure were installed and maintained during construction. All erosion and sediment control measures were removed after construction, once vegetation was reestablished. All disturbed areas were revegetated or otherwise stabilized with structural methods.

RELEVANT PROJECT EXAMPLES

Venus (Hamilton) Drainage

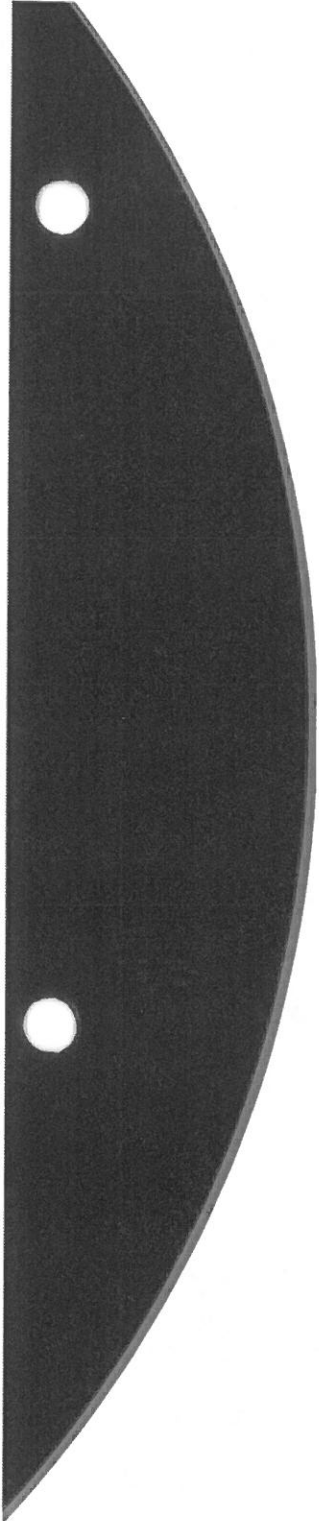
In the community of Venus, McDowell County, on a steep mountain side, mine drainage was discharging from a collapsed portal. The amount of water flowing from this portal changes from time to time throughout the year. This mine water discharges down the mountain side, on the surface of the ground and also through underground voids, causing damage to the homes and property of the approximate seven (7) homeowners living down slope of this discharge. A wet seal was designed at the open portal and the drainage from this mine was conveyed into a pipe across the gas well road. A grouted rip rap drainage channel was designed to carry all flow away from the property owners, down the hillside to a point of discharge near the railroad.

Harris Branch

The Harris Branch site was located in McDowell County, West Virginia, near the community of Havaco. The project contained a coal refuse pile and is approximately 2 acres in size. The refuse pile had areas of steep, unstable and barren slopes that were a source of sediment load to the adjacent Tug Fork River. The main concern of the project was to eliminate the refuse encroachment on the fence and property of an adjacent land owner. Various items of trash and debris existed on the site as well.

The refuse pile was regraded to stable slopes, soil was covered and seeded and permanent drainage patterns were established. The refuse pile was removed from the adjacent property owner and the existing collapsed fence was removed and replaced. An off-site soil borrow area was utilized to obtain the necessary soil required for the soil cover and seeding. Riprap bank protection was utilized to prevent future washout and undercutting of the refuse pile as well as further erosion and sedimentation into the Tug Fork River. All trash and debris were disposed of at an approved landfill. All of the required erosion and sediment control measures were installed prior to construction. Additional erosion and sediment control measure were installed and maintained during construction. All erosion and sediment control measures were removed after construction, once vegetation was reestablished. All disturbed areas were revegetated or otherwise stabilized with structural methods.

KEY PERSONNEL RESUMES



KEY PERSONNEL RESUMES



Joe Saunders, PE
**Vice President: AML/
Transportation**
Project Manager,
Primary Point of Contact

Education

B.S. Civil Engineering,
West Virginia University
Institute of Technology

Work Experience

TERRADON Corporation
2012-Present

ms consultants
2003-2012

Buchart Horn
1998-2003

Laborers Union
1990-1998

Registration

Professional Engineer,
West Virginia, Ohio
North Carolina

Joe Saunders is a Professional Engineer, licensed in West Virginia, Ohio and North Carolina. He is located in TERRADON's headquarters office in Nitro, WV where work for this project will be performed. Saunders offers a wealth of experience performed for the State of West Virginia, Department of Transportation, and Department of Environmental Protection related to engineering design and plan development for AML projects, structures and roadways. Saunders will be the Project Manager, responsible Engineer, and primary point of contact for the project. Working from the Nitro office, Saunders will be readily accessible to DEP.

As lead designer for TERRADON Corporation, Mr. Saunders is responsible for design engineering for AML and Highways projects. Responsibilities include preliminary design and reports, construction plans and specifications, construction estimates, contracts and bidding review, and construction engineering.

Mr. Saunders directs the in house AML and Highways design teams by QA/QC checking and reviewing, and hydrology and hydraulic calculations. Mr. Saunders also works with the design team to schedule manpower. With 15 years of experience as a designer and almost a decade of additional experience in highway and bridge construction, Saunders is experienced with all critical elements required of this contract.

Recent AML Project Experience Highlights:

- Mallory (Gibson) Portals (WVDEP) Served as Project Manager and Lead Design Engineer for this WVDEP-AML project located in Logan County, WV. Responsible for all project tasks and coordination with the client.
- Lillbern-Pritt Highwall Project (WVDEP) Serves as Project Manager and Lead Design Engineer for this WVDEP-AML project located in Fayette County, WV. Responsible for all project tasks and coordination with the client.
- Shabbyroom Hollow Complex (WVDEP) Serves as Project Manager and Lead Design Engineer for this WVDEP-AML project located in McDowell County, WV. Responsible for all project tasks and coordination with the client.
- Robinette Refuse Pile (WVDEP) Serves as Project Manager for this WVDEP-AML Project. While not initially involved as design engineer, Saunders oversaw any remaining work on the project, including engineering support for the client and contractor, and inspection services.
- U.S. 35 Design and Construction Plans, West Virginia Dept. of Transportation, Mason County (WVDOH) Structural Engineer: Overall QA/QC. Involved in checking and reviewing roadway geometry, drainage and quantities. Responsible for the design of box culverts.
- U.S. Route 35, Review of Shop Drawings, West Virginia Dept. of Transportations, WV (WVDOH) Tech Resp Staff reviewed and approved shop drawings for two-span, curved bridge crossing WV County Route 38 and Lower Ninemile Creek.
- Duhring Bridge Study, Design and Preparation of Replacement Plans, WV (WVDOH) Senior Structural Engineer and Technical Manager. Detailed the study of several alternates for a replacement bridge for a structure constructed in the 1930s.

KEY PERSONNEL RESUMES

William Gerencir Auto CAD Designer/Technician

Mr. Gerencir has nearly 20 years of experiences in the engineering related fields including more than 13 years CAD design expertise for a broad scope of projects. He has been with TERRADON for most of those years where he is responsible for design, drafting, quantity estimates, site design and is also capable of managing a project and corresponding CAD files properly.

Recent AML Project Experience Highlights

- **Robinette Refuse Pile– 2010** Regraded a 5 acre refuse pile and restored 2,100 LF of stream that was being encroached on by said refuse pile and designed all necessary surface water conveyance channels. Served as lead CAD Designer on project responsible for site layout, grading. Regraded refuse pile in a manner to maintain the current location of an existing stream so as not to add length to the US Army Corps of Engineers permit process as well as avoid disturbing residents property in the area adjacent to the stream. Ensured balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Responsible to coordinate CAD work and other design tasks with other CAD designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the engineers cost estimate. Prepare the calculation brief on the project, perform quality control checks on the construction plan sheets. Produce the final deliverable including plans, contractors bid form, engineers and cost estimate. Administered conceptual design meeting with WVDEP on this project. Participated in field reconnaissance and field investigation necessary for completion of the project.
- **Gain Highwall– 2010** Served as lead CAD Designer on this project responsible for site layout, grading, balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Coordinate CAD work and other design tasks with other CAD Designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the Engineers cost estimate. Prepared the calculation brief on the project as well as performed quality control checks on the construction plan sheets. Produced the final deliverable including plans, contractors bid form, engineers cost estimate, and calculation brief. Ran conceptual design meeting with WVDEP . Participated in field reconnaissance and field investigation necessary for the completion of the project.
- **Shabby Room Hollow Complex– 2010** Served as lead CAD Designer on project responsible for site layout, grading, and balance of earthwork (regarded and balanced both refuse piles 1 and 2 which had very little room, on site as to not require removal of any refuse to another location on site of to an offsite waste area, drainage layout and design. Plan sheet preparation, profiles sheet preparation, cross section sheet preparation, detailed sheet preparation. Also coordinate CAD work and other design tasks with other CAD designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the engineers cost estimate.
- **Harris Branch Refuse Pile - 2010** Served as lead CAD Designer on project responsible or Site layout, Grading and balancing of earthwork, Drainage layout and design also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation, also to co-ordinate CAD work and other design tasks with other CAD designers on the project, Generate quantity take-offs on the project for the contractors bid form and the Engineers cost estimate. Also prepare the calculation brief on the project. perform quality control checks on the construction plan sheets. Produce the final deliverable including plans, contractors bid form, engineers cost estimate and calculation brief. Also run conceptual design meeting with wvdep on project. Also participate in field reconnaissance and field investigation necessary for completion of the project.

Work Experience

TERRADON Corporation
1993-Present

ERM-Midwest, Inc.
1992-1993

The H.C. Nutting Company
1990-1992

Certifications

West Virginia DOT Certified
Portland Cement/Concrete
Inspector

West Virginia Certified
Compaction Inspector

WVDOH Certified Agg.
Sampler

Fairmont State College
Engineering Technician/
Technologist Certification
Program #2356 Level III

KEY PERSONNEL RESUMES

Mark Clutter Project Manager

As Project Manager, Clutter prepares construction documents and associated permitting for numerous projects throughout Kentucky, Ohio, and West Virginia to include: erosion and sediment control plans, storm water management, design of impoundment closures, slope stability analysis, field surveying, drawings and specification preparation, design, design drafting, construction inspection, quality control testing, shop drawing review, project management, contract administration, permitting and report preparation.

Recent AML Project Experience Highlights

- **Mullens Portals & Drainage- 2009, Mullens, Wyoming County, WV** Served as Project Manager for AML Project No. DEP14430. Responsibilities included: project management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: construction access, treatment of numerous open and collapsed portals, and treating/conveying storm/mine drainage, in and around the city of Mullens. A majority of the mine drainage flowed through the city storm sewer system and under County Route 54, requiring close coordination with city, state, and federal agencies.
- **Bellington Portals & Drainage- 2009, Bellington, Barbour County, WV** Served as Project Manager- responsibilities included: project management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: construction access, treatment of numerous open and collapsed portals, and treating/conveying storm/mine drainage, in and around the city.
- **Rumble Refuse & Portals- 2008, near Rumble, Boone County, WV** Served as Project Manager- responsibilities included: project management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: construction access, stabilizing/regarding of refuse piles, treatment of open and collapsed portals, and treating/conveying storm/mine drainage.
- **Elk Creek Portals- 2007, near Delbarton, management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: stream and construction access, treatment of numerous open and collapsed portals, and treating/conveying storm/mine drainage.**

Education

B.S. Civil Engineering
Technology
Fairmont State College

A.A.S. Civil Engineering
Technology
Fairmont State College

A.A.S. Drafting/Design
Engineering Technology
Fairmont State College

Work Experience

TERRADON Corporation
2010-Present

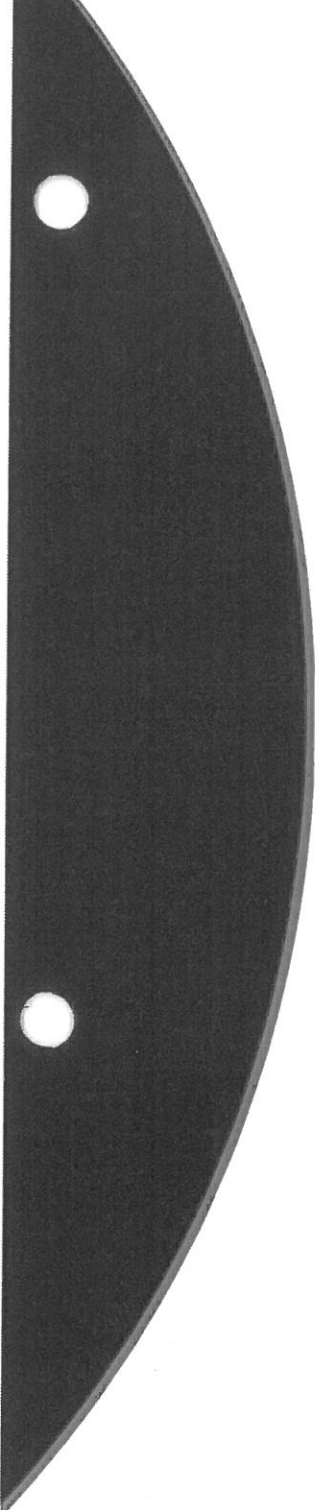
Triad Engineering, Inc.
2010-2011

WV Army National Guard
1990-2003

Registrations

Certified 40 Hr. HAZWOPER
(OSHA 29 CFR 1910.120)

PURCHASING AFFIDAVIT



RFQ No. DEP16436

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: TERRADON Corporation, Inc.

Authorized Signature: Muhammad U. Reaz Date: 3/28/14

State of West Virginia

County of Putnam, to-wit:

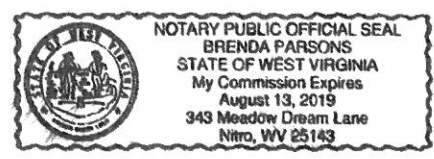
Taken, subscribed, and sworn to before me this 28th day of March, 2014

My Commission expires August 13, 2019

AFFIX SEAL HERE

NOTARY PUBLIC Brenda Parsons

Purchasing Affidavit (Revised 07/01/2012)



ORIGINAL

RFQ No. DEP16436

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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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: TERRADON Corporation, Inc.

Authorized Signature: Muhammad U. Reaz Date: 3/28/14

State of West Virginia

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 28th day of March, 2014.

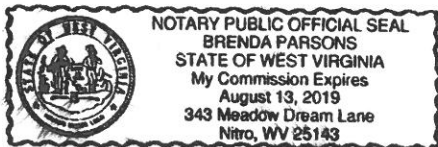
My Commission expires August 13, 2019.

AFFIX SEAL HERE

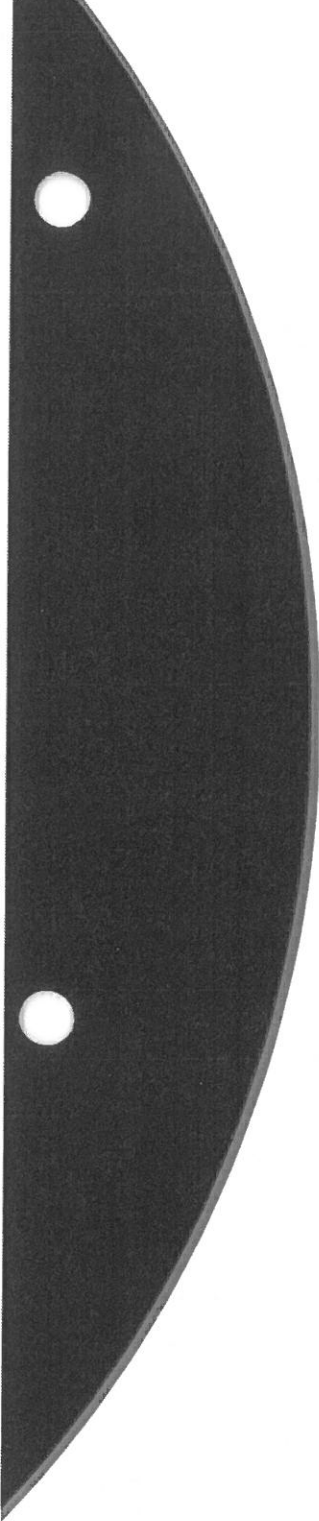
NOTARY PUBLIC

Brenda Parsons

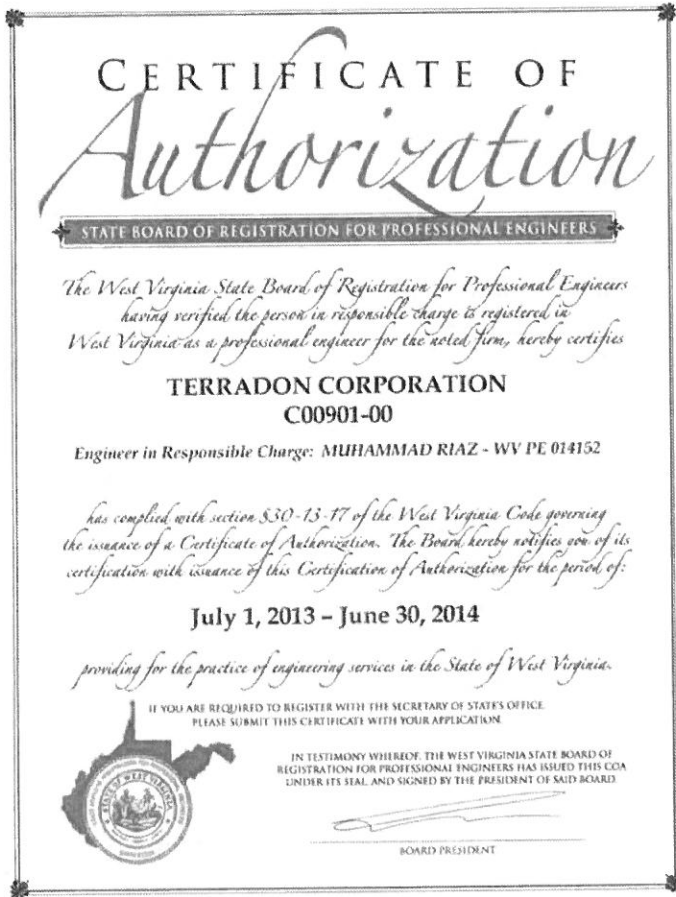
Purchasing Affidavit (Revised 07/01/2012)



CERTIFICATIONS



CERTIFICATIONS



TERRADON CORPORATION is a certified Women's Business Enterprise as defined by the Women's Business Enterprise National Council. TERRADON is controlled by Virginia King, who provides more than 32 years of administrative experience to the company.

The Women's Business Enterprise National Council (WBENC), founded in 1997, is the nation's leading advocate of women-owned businesses as suppliers to America's corporations. It also is the largest third-party certifier of businesses owned and operated by women in the United States. WBENC works to foster diversity in the world of commerce with programs and policies designed to expand opportunities and eliminate barriers in the marketplace for women business owners. WBENC works with representatives of corporations to encourage the utilization and expansion of supplier/vendor diversity programs.