

# THRASHER

ARCHITECTURE | ENGINEERING | FIELD SERVICES



## PINE BLUFF (WILSON) REUSE

CEOI 0313 DEP1800000004

Submitted by:  
The Thrasher Group, Inc.  
June 10, 2018



600 White Oaks Blvd. | Bridgeport, WV 26330 | 1-800-273-6541 | [www.thethrashergroup.com](http://www.thethrashergroup.com)

07/10/18 09:38:30  
WV Purchasing Division

**SOLICITATION NUMBER: CEOI DEP1800000004**  
**Addendum Number: No.01**

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The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

**Description of Modification to Solicitation:**

Addendum issued to publish and distribute the attached documentation to the vendor community.

**THE PURPOSE OF THIS ADDENDUM IS TO CHANGE THE FOLLOWING:**

Question Deadline: WAS 08/05/2018 at 9 AM EST, IS NOW 08/28/2018 at 9 AM EST  
Bid Opening Date: WAS 08/12/2018 at 1:30 PM EST, IS NOW 07/10/2018 at 1:30 PM EST  
Buyer: WAS Guy Nisbet, IS NOW Brittany Ingraham

Email: [Brittany.E.Ingraham@wv.gov](mailto:Brittany.E.Ingraham@wv.gov)

No other changes.

**Additional Documentation:** Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

Revised 6/8/2012

**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:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" 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.

The Thrasher Group

Company



Authorized Signature

July 10, 2018

Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012

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



(Name, Title)

Chad Biller, PE - Principal-in-Charge

(Printed Name and Title)

600 White Oaks Blvd. Bridgeport, WV 26330

(Address)

304-624-4108 / 304-624-7831

(Phone Number) / (Fax Number)

cbiller@thetrashergroup.com

(email address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

The Thrasher Group

(Company)



(Authorized Signature) (Representative Name, Title)

Chad Biller, PE - Principal-in-Charge

(Printed Name and Title of Authorized Representative)

July 10, 2018

(Date)

304-624-4108 / 304-624-7831

(Phone Number) (Fax Number)

**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.

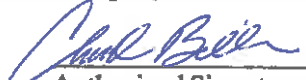
**Addendum Numbers Received:**

*(Check the box next to each addendum received)*

- |  |  |
|--|--|
| <input checked="" 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 |

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The Thrasher Group  
Company

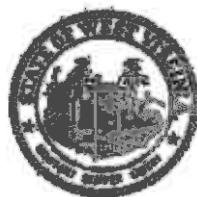
  
Authorized Signature

July 10, 2018

Date

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

## West Virginia Ethics Commission



### Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$100,000 or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

**"Business entity"** means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation.

**"Interested party" or "Interested parties"** means:

- (1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
- (2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
- (3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

**"State agency"** means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of *W. Va. Code* § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

*This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: [ethics@wv.gov](mailto:ethics@wv.gov); website: [www.ethics.wv.gov](http://www.ethics.wv.gov).*

Revised October 7, 2017

STATE OF WEST VIRGINIA  
Purchasing Division  
**PURCHASING AFFIDAVIT**

**CONSTRUCTION CONTRACTS:** Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

**ALL CONTRACTS:** 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: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, 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: The Thrasher Group

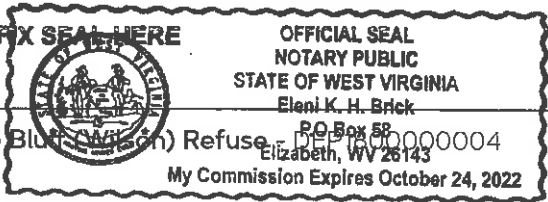
Authorized Signature: *Chuck Beck* Date: July 10, 2018

State of West Virginia

County of Harrison, to-wit:

Taken, subscribed, and sworn to before me this 9<sup>th</sup> day of July, 2018.

My Commission expires October 24, 2022.



NOTARY PUBLIC *Elani K. H. Brick*

Pine Bluff (W. Va.) Refuse, Dept. 50000004

**THRASHER**

West Virginia Ethics Commission  
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Contracting Business Entity: The Thrasher Group Address: 600 White Oaks Blvd.  
Bridgeport, WV 26330

Authorized Agent: Chad Biller Address: \_\_\_\_\_

Contract Number: DEP1800000004 Contract Description: EOI - Pine Bluff (Wilson) Refuse

Governmental agency awarding contract: West Virginia Department of Environmental Protection

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

1. Subcontractors or other entities performing work or service under the Contract

Check here if none, otherwise list entity/individual names below.

2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)

Check here if none, otherwise list entity/individual names below.

3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)

Check here if none, otherwise list entity/individual names below.

Signature: Chad Biller

Date Signed: July 10, 2018

**Notary Verification**

State of West Virginia, County of Harrison:

I, Eleni K. H. Brick, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 9<sup>th</sup> day of July, 2018.

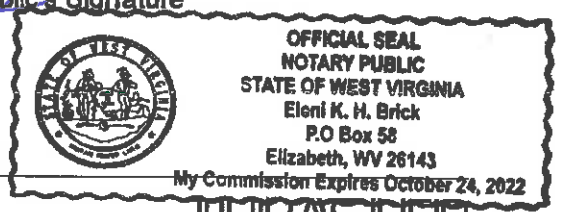
Eleni K. H. Brick  
Notary Public's Signature

**To be completed by State Agency:**

Date Received by State Agency: \_\_\_\_\_

Date submitted to Ethics Commission: \_\_\_\_\_

Governmental agency submitting Disclosure: \_\_\_\_\_





July 10, 2018

Attn: Bid Clerk  
Department of Administration  
Purchasing Division  
2019 Washington Street E  
Charleston, WV 25305

*RE: EOI - Pine Bluff (Wilson) Refuse - EPAM 16038*

Dear Members of the Selection Committee:

The Thrasher Group, Inc. is pleased to present our qualifications to the West Virginia Department of Environmental Protection (DEP) to provide statewide engineering and design services for the Pine Bluff Refuse project. Thrasher recognizes the importance of these projects and the lasting impact it will have once it is complete. We understand the level of commitment and professional expertise these project require.. From our strategic office locations, to our full service resources, we are the right choice for you projects.

Our team of professionals will deliver based on the following competencies:

- > Detailed review of the existing conditions of the project area
- > Ability to provide recommendations and options for the improvements
- > Preparation of itemized cost estimates
- > Review of estimate and design concepts
- > Development of drawings and specifications for construction
- > Ability to provide environmental services
- > Project bidding
- > Construction inspection

Thrasher has carefully and concisely responded to your request for qualifications and we look forward to the opportunity to partner with the West Virginia Department of Environmental Protection.

Sincerely,  
THE THRASHER GROUP, INC.



Chad Biller, PE  
Principal-in-Charge

## MISSION

To improve the communities where we live and work by driving infrastructure development.

## VISION

To be the Mid-Atlantic firm of choice for clients and employees.

## CORE PRINCIPLES

Quality  
Safety  
Adaptability  
Integrity



# 9

**OFFICES**  
in six states:

West Virginia  
Virginia  
Pennsylvania  
Ohio  
Maryland  
Kentucky



# 530

**EMPLOYEES**

**34** Licensed  
Professional Engineers

**20** Licensed  
Professional Surveyors

**6** Licensed  
Professional Architects

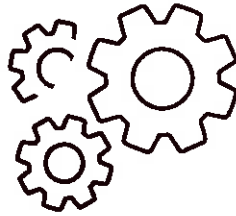


# 35

**YEARS**  
of delivering  
successful  
projects

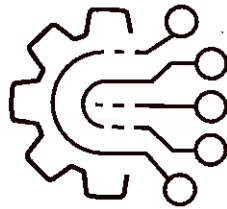
### Main Point of Contact

Chad Biller, PE  
Principal-in-Charge  
cbiller@thethrashergroup.com  
Cell: 304-288-0450  
Office: 304-326-6127



## SERVICES

- > Engineering
- > Environmental
- > Survey
- > Materials Testing and Inspection
- > Construction Management
- > Architecture



## CORE MARKETS

- > Oil and Gas
- > Public/Private Utilities
- > Land Development
- > Highways and Roads
- > Industrial
- > Commercial
- > Education (K-12, Higher Ed)

# PROJECT APPROACH

Thrasher is a statewide, full service group with the necessary environmental capabilities to perform this project. Thrasher has the experience and ability to work on complex-natured projects, such as the one proposed. Thrasher has, or is in the process of, completing ten Abandoned Mine Lands (AML) projects for the West Virginia Department of Environmental Protection (WVDEP) and two AMD Passive Treatment Systems for West Virginia watershed protection groups.

**Project Inception:** Thrasher not only takes the time to understand the scope of work but takes the time to understand other issues that may arise while executing such projects. We attend various meetings to update on progress and to listen to the constituents and their concerns that may arise and focus on ways to address them to ensure everyone is working together.

**Availability:** Thrasher has a unique advantage because of our strategically placed office locations throughout the State of West Virginia. With the varying projects, Thrasher has the capabilities of performing such tasks with very little notice. Our office locations give us the flexibility to be at any location quickly.

**Addressing Each Project:** Each project has unique issues but our proven process allows for consistency and accuracy. As each project arises, it will be assessed the by breaking it down into phases. Any of the projects could have multiple phases, which will be determined on a project-by-project basis.

**Coordination/Communication:** Our Project Manager will be in constant contact with members of the West Virginia Land Stewardship Corporation in order to maintain transparency while completing the projects. Initial support will begin with consistent communications and internal Thrasher Quality Control processes (site surveys, stakeholder reviews, comment resolution, etc.) throughout the effort to ensure effective and efficient use of the resources provided by the West Virginia Land Stewardship Corporation and the WV DEP.

**Passive Treatment:** various forms of passive treatment methodologies have been designed in series to provide the maximum treatment practicable in the areas provided. These treatments include, but are not limited to; open limestone channels, lime dosing, limestone leach beds with automated flushing structures, vertical flow reactors, SAP cells, multiple forms of aeration practices (e.g. waterfall step structures, plunge pools, weirs, and culvert outfall structures), settling basins or flushing ponds, and constructed wetlands.

**Reclaim Refuse Piles:** refuse piles were incorporated into the backfill of re-graded highwalls. These areas are then covered with soil and re-seeded.

**Highwall Re-Grading:** miles of highwalls have been backfilled and re-graded utilizing plans developed by Thrasher. Balancing the amount of cut and fill and keeping the amount of disturbance to a minimum is a challenge on any AML project. Thrasher has successfully met these challenges on other projects.

## PROJECT APPROACH

**Sink Hole Repair:** shallow mine voids cause sink holes that divert natural streams underground. Thrasher evaluates each site and develops a plan to backfill the voids, thereby reestablishing the original property.

**Landslide Repair:** three different landslide repair projects have been completed by Thrasher. Each repair required extensive geo-technical design for soldier pile and concrete lagging and concrete segmental gravity block walls, and slip material removal for slope stabilization. These projects were in close proximity to residential areas that required special care during construction.

**Drainage Design:** all of the AML projects completed by Thrasher have required design of drainage structures. These have included vegetated, grouted, rip-rap channels, as well as culverts and storm sewers. Drainage calculations were completed to properly size all conveyances.

**Permitting:** the permitting process can delay projects if they are not submitted correctly or in a timely manner. Thrasher takes pride in our ability to quickly obtain permits for our clients. We are able to utilize our excellent relationship with the WVDEP for NPDES permits as well as our relationship with the West Virginia Division of Highways for entrance and drainage permits. We are also experienced in obtaining Army Core of Engineers permits from both the Pittsburgh and Huntington District Offices for stream bank restoration, wetland mitigation and construction, linear transportation and utility line projects, and temporary construction access and dewatering.

## OFFICE LOCATIONS

- > Bridgeport, WV
- > Charleston, WV
- > Beckley, WV
- > Burton, WV
- > Fredericksburg, VA
- > Canonsburg, PA
- > Canton, OH
- > Oakland, MD
- > Lexington, KY





**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION**



**Chad Biller, PE**  
Principal-in-Charge



**RJ Hovatter, PE**  
Project Manager



**Steve Buchanan, PE, PS**  
Project Engineer

Survey Services

Construction Services

Environmental Services

# CHAD BILLER, PE

Principal-in-Charge



Chad Biller, PE leads Thrasher's team of highly talented engineers and support staff on various civil engineering endeavors all across the Appalachian basin. Chad has been with The Thrasher Group for nearly two decades, and has been a driving force in the success of countless projects ranging from airport expansions, to site development projects, to large-scale highway improvements. Throughout the years, Chad has been able to utilize his creative problem solving skills, and decades of hands-on experience to implement unique project delivery methods individually tailored for his clients.

## Education

Bachelor of Science,  
Civil Engineering  
West Virginia University

## Registrations

Professional Engineer

- > West Virginia
- > Ohio

## Affiliations

- > American Society of Highway Engineers
- > American Society of Civil Engineers
- > National Society of Professional Engineers

## Experience

### WVDEP AML Anglins Run Project

Role: Principal-in-Charge  
> Nicholas County, WV

### WVDEP AML Squires Creek Project

Role: Principal-in-Charge  
> Preston County, WV

### WVDEP AML Landgraph Refuse Pile

Role: Principal-in-Charge  
> McDowell County, WV

### WVDEP AML Stowe Landslide

Role: Principal-in-Charge  
> Logan County, WV

### WVDEP AML Owl Creek Highwall #2

Role: Principal-in-Charge  
> Monongalia County, WV



# RJ HOVATTER, PE

Project Manager



Richard "RJ" Hovatter, PE, has spent most of his career working with private and public clients on various site development projects. His team of engineers are able to develop strategies to fit the needs of each client. RJ is well versed in site design, grading, storm water and erosion and sediment control plans. He has also managed over 35 Abandoned Mine Land Emergency and Abandoned Mine Land projects across West Virginia, Maryland, and Ohio. His experience provides clients with the reassurance that projects are inspected thoroughly.

## Education

Bachelor of Science,  
Civil Engineering  
Fairmont State University

## Registrations

Professional Engineer:

- > West Virginia
- > Pennsylvania

## Affiliations

- > Level I Rosgen Natural Stream Construction
- > Level II Rosgen Natural Stream Construction
- > HEC—RAS Operator Training Short Course
- > Annual Oil & Gas Training Pennsylvania—Expedited Review of ESCGP-1
- > MSHA Training

## Experience

### WVDEP AML Canyon Refuse and Dump

Role: Project Manager  
> Monongalia County, WV

### WVDEP AML Dansbranch Landslide Emergency Project

Role: Project Manager  
> Mingo County, WV

### WVDEP AML Landgraft Refuse Pile Design

Role: Project Manager  
> McDowell County, WV

### WVDEP AML Lyons Landslide Project

Role: Project Manager  
> Harrison County, WV

### WV DEP Shinns Run Portals

Role: Project Engineer  
> Harrison County, WV

# STEVE BUCHANAN, PE, PS

Project Engineer



Steve Buchanan, PE, PS, has over three decades of professional experience working on various municipal projects all throughout the Mid-Atlantic region. Steve holds licensure in both engineering and surveying, which has given him the ability to develop projects with a comprehensive understanding of the technical components, as well as land restrictions and site considerations

Over the years, Steve has primarily been involved with public utility projects, and has worked on a wide array of jobs including stormwater management, site planning, hydrologic and hydraulic analysis, wastewater collection system design, water distribution systems, and highway engineering. Steve is heavily involved in all facets of his projects; he manages project design, funding applications, mapping development, and construction coordination for numerous municipalities.

## Education

Bachelor of Science,  
Civil Engineering  
West Virginia University

## Registrations

Professional Engineer:

- > West Virginia
- > Maryland
- > Pennsylvania
- > Ohio

Professional Surveyor:

- > West Virginia

## Experience

### Morgan Run AMD

Role: Project Manager  
> Preston County, WV

### Lambert Run Site 5 AMD

Role: Project Manager  
> Harrison County, WV

### Middle Fork of Greens Run Phase 1 AMD

Role: Project Manager  
> Preston County, WV

### Sovern Run 62 and Bishoff AMD

Role: Project Manager  
> Preston County, WV

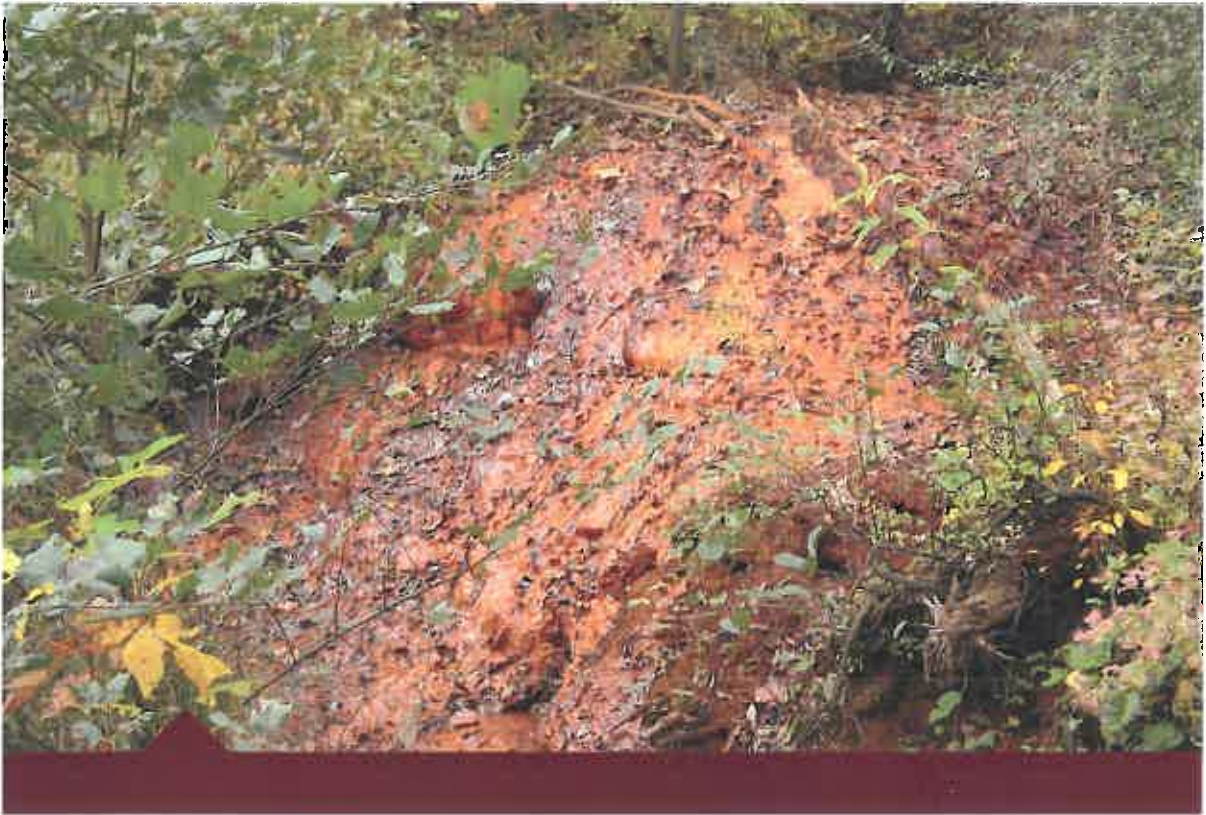
### Allen Conner/Messenger Site on Glad Run AMD

Role: Project Manager  
> Preston County, WV

**BOND FORFEITURE and RELATED PROJECT EXPERIENCE MATRIX**

PROJECT	Exp. Basis C-Corp P-Personal *	Additional info provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS														Primary staff participation/capacity *** M-Management P-Professional			
			Forfeited Surface Mine Reclamation	Forfeited Deep Mine Reclamation	Portal/shaft closure	Hydrologic/Hydraulic design/ Eval.	Remaining Evaluation	Mine / reface 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	Chadwick D. Biller	Steve Buchanan	R.J. Hovatter
Anglins Run Portals	C	Project Experience			X	X					X							M	P	
Roaring Creek	C		X	X		X			X		X							M	P	
Shimms Run Portals	P			X		X			X											M/P
Squire's Creek Portals	C		X		X	X					X			X				M	P	
Overfield (Laferty) CS&P	C		X		X	X					X					X		M		
Laurel Run	C		X		X	X					X							M		P
Clarksburg Lyons Landslide	C		X			X					X					X		M		
Pleasant Valley	C		X		X	X					X							M		P
Roger Camp Hill	C		X			X					X							M		P
Owl Creek Highwall	C		X		X	X					X			X				M		P
Landgraff Refuse	C		X			X					X							M		P
Canyon Refuse & Dump	C		X		X	X					X			X				M		P
Stowe (Prince) Landslide	C					X					X							M		P
Lamberts Run Site 7	C	Project Experience	X			X					X	X	X	X		X		M		P
Swamp Run #1	C	Project Experience	X			X					X	X	X	X		X		M		P
Dans Branch	C					X					X					X		M		P
Ed Gower Highwall #2	C		X		X	X					X							M		P
Martinka Mine	C	Project Experience	X			X					X	X	X	X				M		P

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



### **Anglins Run**

The project area included a total of eight collapsed mine portals with at least five of them having discharges ranging from 1 to 10 gpm. Total flows were estimated to be between 25 and 30 gpm. Thrasher's scope and plans for this project included construction of an access road into the site, excavation and wet seal of at least eight deep mine portals and the re grade and fill of subsidence sinkholes. To carry water safely off site, drainage control channels, conveyance pipe and under drain were constructed. All areas disturbed by construction were soil covered, conditioned and re vegetated.



### Laurel Run #1

This project site consisted of seven sections of highwall that totaled approximately 5,700 feet in length and averaged 20 feet in height. There were three collapsed portals adjacent to one another discharging approximately 25 gpm. One open portal entrance measured 2 foot by 3 foot and had no known discharge associated with it. Approximately 230 feet of abandoned railroad tracks remained on the project site and they did not connect to any existing tracks. The project site covered a total area of six acres and suffered from a lack of vegetation and toeing into Laurel Run.



### Lambert's Run Site #7

This project located in Clarksburg, WV involved 3 wet-seal portals that drain into a 0.7 acre impoundment. The three portals discharge approximately 500 to 3,000 gallons per minute of iron laden water into the main stem of Lambert Run. This project is another in a series of projects aimed at removing Lambert Run (WV MW-16) from the state's 303(d) list of impaired watersheds. This is a project which will combat acid mine drainage emanating from three portals in the central region of the Lambert Run watershed.

Thrasher's plan for the project included, constructing, aeration channels and approximately 4 acres of aerobic wetlands to provide passive treatment of AMD. The proposed treatments have been designed to remove approximately 80% of the acid load.



### **Martinka Mines Water Treatment Plant**

This project consisted of the design of a 17.5 MGD Water Treatment Plant to blend mine borehole water with acid mine drainage. The plan removed iron to less than 1 mg/l. The plant design included:

- > Aeration – Blending and Stripping Carbon Dioxide
- > Feed Hydrogen Peroxide – Shifts chemical equilibrium for utilization of naturally calcium carbonate for neutralization
- > Coagulation/Flocculation – Three stage tapered flocculation with axial flow propeller mixers and variable frequency drives
- > Sedimentation – Six settling ponds with ferric hydroxide sludge removal and underground injection wells
- > Polishing Pond – Sodium hexamataphosphate addition for calcium stabilization.



### **Squires Creek**

This job site included two refuse piles covering about two to three acres in total. There were remains of one mine building, unvegetated coal refuse, deep mine portals and acid mine drainage. Nearly all of this land was unvegetated with signs of severe erosion, the toe of the eastern pile extended down to the creek. Both piles had very steep out slopes and several well used 4-wheeler (ATV) trails extended up and down the face, thereby posing public safety hazards.

There were also six open and collapsed deep mine portals. Of these portals, one was open enough to easily allow entrance by either a child or adult. This opening was 4 to 5 feet high by 20 feet in width. Inside the portal were mine props that were clearly visible and the mine appeared to extend for a considerable distance into the hill. The remaining five portals, all located along a 200 LF mine face-up or highwall, approximately 10 to 15 ft. in height, were collapsed with only one discharging about 2 to 3 gpm of acid mine drainage (AMD).





### Swamp Run #1

This project located near Alton in Upshur County, WV involves a large ferric iron "mushroom" that takes up approximately 0.87 acres caused by AMD emanating from an entombed refuse fill above an unnamed tributary of Swamp Run. The Swamp Run #1 passive AMD treatment system will utilize open limestone channels channeling the toxic water to a forebay, which will control larger storm event flow and separate that flow between primary and secondary limestone leech beds. These beds are self-flushing with an automated inline water level control structure. The treated water from the leech beds will then discharge into flushing ponds for solids removal before being conveyed into a wetland finishing pool prior to being released back into the unnamed tributary.

The proposed treatments have been designed to remove approximately 80% of the acid load and should have a lifespan of 20 years.



## CIVIL ENGINEERING

### **Water Treatment & Distribution**

Thrasher brings experience, practical knowledge and advanced z to clients ranging from regional to small communities water systems. Our engineers have designed and managed the construction of hundreds of miles of water distribution lines, millions of gallons of storage, and numerous system rehabilitations that successfully reduced water loss and increased reliability.

### **Wastewater Collection & Treatment**

Wastewater collection and treatment systems are vital to the health of rural communities and municipalities. Cost-versus-benefit Environmental, and technological issues are all involved

### **Stormwater Systems**

Thrasher is prepared to take on challenges to make your stormwater management project a success. In the not so distant past, storm water management was not a significant issue. It was "out of sight, out of mind." That is no longer the case. Ever-increasing regulations, the creation of public storm water utilities, and the focus on downstream effects of development are pushing stormwater management issues to the forefront.

### **Site Development**

Engineering for site development is far from a "one size fits all" approach. Every project is unique and requires a blend of technical expertise combined with quality planning principles, efficient design, market realities, and flexibility to seize opportunities. With our diverse staff, Thrasher has the right blend of talent to make your project a success.

### **Roadways & Bridges**

From industries to local families, the nation depends on the strength of highways, bridges, and even pedestrian walkways. No matter what the mode of land transportation, Thrasher gets our clients where they want to be.



## ENVIRONMENTAL SERVICES

In today's ever-changing regulatory landscape, compliance with federal and state environmental laws is critical to the success of projects. Compliance can often seem at odds with the project vision and financial constraints. The Thrasher team partners as a technical and regulatory advocate to overcome obstacles and guide our clients through complicated policies to achieve their goals. From initial investigations to final design, our environmental experts are there to assist in all facets of our clients' projects. Our team has developed relationships with academic consultants from multiple universities that are here to aid in specialized assessments.

### Environmental Services:

- > All Appropriate Inquiry (AAI)
- > Environmental Site Assessments
- > NEPA Compliance for Publicly Funded Projects
- > Ecological Studies
- > Brownfield Redevelopment
- > Industrial Hygiene and Demolition Planning
- > Underground Storage Tank (UST) Consulting Services
- > Wetland Delineation, Design, and Mitigation
- > Remediation Investigation, Feasibility Studies and Design
- > Hydrogeologic and Geologic Investigations
- > Groundwater Monitoring
- > Sampling and Laboratory Analysis
- > Solid and Hazardous Waste Management
- > SPCC, GPP, SWPPP, GWPP, SWPPP Environmental Compliance
- > Stream Assessments, Design, and Mitigation
- > Erosion and Sediment Control Plans
- > Voluntary Remediation Program
- > Uniform Environmental
- > Covenants Act
- > CERCLA Preliminary Assessment
- > CERCLA Site Investigation



## SITE DEVELOPMENT

Engineering for site development is far from a "one size fits all" approach. Every project is unique and requires a blend of technical expertise, planning principals, efficient design, market realities, and the flexibility to seize opportunities. With our diverse staff, Thrasher has a winning combination of talent to take projects from design to reality.

At Thrasher, we understand that the design of a successful site development project must factor in economic landscape, political implications, and strategic planning that takes projects beyond engineering. The Thrasher team possesses expertise in every facet of development including site selection and planning, grading, storm water management, erosion and sediment control, permitting, and infrastructure design.

We pride ourselves on being a partner in projects that improve the quality of life for residents and provide economic sustainability to communities.

### Site Development Expertise:

- > Industrial and Business Parks
- > Mixed-Use Developments
- > Athletic Facilities
- > Federal Correctional Facilities
- > Streetscapes and Sidewalk Planning
- > Commercial Developments
- > Single and Multi-Family Residential Development
- > Primary, Secondary, and Higher Education Facilities
- > Recreational Resorts and Guest Lodging
- > Shopping Plazas

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

PROJECT NAME		DATE (DAY, MONTH, YEAR) <b>JUNE 12, 2018</b>	FEIN <b>55-0633596-6</b>
1. FIRM NAME <b>THE THRASHER GROUP, INC.</b>		2. HOME OFFICE BUSINESS ADDRESS <b>600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330</b>	3. FORMER FIRM NAME <b>THE THRASHER GROUP, INC.</b>
4. HOME OFFICE TELEPHONE <b>304-624-4108</b>	5. ESTABLISHED (YEAR) <b>1983</b>	6. TYPE OWNERSHIP Individual Partnership Corporation <input checked="" type="checkbox"/> X Joint-Venture	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES NO <input checked="" type="checkbox"/> X

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE  
**600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330 / 304-624-4108 / CHAD RILEY**

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM <b>KENNETH MORAN, PE, PS - PRESIDENT          CHAD RILEY, PE - VICE PRESIDENT          RONALD STANLEY, CPA - CHIEF FINANCIAL OFFICER</b>	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS <b>WM. RANDY WATSON-PARTNER (304) 624-4108          CHAD M. RILEY, P.E.- PARTNER (304) 624-4108          CHADWICK BILLER, P.E.- PARTNER (304) 624-4108          CLAY RILEY, P.E. - PARTNER (304) 624-4108          DAN FERRELL, P.E.- PARTNER(304) 624-4108          CRAIG BAKER, CEFP - PARTNER (304) 624-4108          ROBERT MILNE, P.E. - PARTNER (304) 624-4108          JONATHAN CARPENTER, P.E.-PARTNER (304) 343-7601          MATTHEW FLUHARTY, P.E. - PARTNER (304) 624-4108          JENELLE ARMSTRONG, P.E. - PARTNER (304)326-7601          ROBERT RUFFNER, PS - PARTNER (304-624-4108)          CLAYTON WHITE, EI, PMP - PARTNER (304-624-4108)</b>
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9. PERSONNEL BY DISCIPLINE

<b>41 ADMINISTRATIVE</b>	— ECOLOGISTS	<b>2 LANDSCAPE ARCHITECTS</b>	— STRUCTURAL ENGINEERS
<b>5 ARCHITECTS</b>	— ECONOMISTS	— MECHANICAL ENGINEERS	<b>138 SURVEYORS</b>
— BIOLOGIST	— ELECTRICAL ENGINEERS	— MINING ENGINEERS	— TRAFFIC ENGINEERS
<b>26 CADD OPERATORS</b>	<b>18 ENVIRONMENTALISTS</b>	<b>4 PHOTOGRAMMETRISTS</b>	<b>5 GIS SPECIALIST</b>
— CHEMICAL ENGINEERS	— ESTIMATORS	— PLANNERS: URBAN/REGIONAL	— PIPELINE INSPECTOR
<b>41 CIVIL ENGINEERS</b>	— GEOLOGISTS	— SANITARY ENGINEERS	<b>33 MATERIALS TESTING TECH.</b>
<b>80 CONSTRUCTION INSPECTORS</b>	— HISTORIANS	— SOILS ENGINEERS	<b>534 TOTAL PERSONNEL</b>
DESIGNERS	— HYDROLOGISTS	SPECIFICATION WRITERS	
— DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 34  
 \*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE?  YES  NO NOT APPLICABLE

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

<b>NAME AND ADDRESS:</b> <b>NOVEL GEO-ENVIRONMENTAL</b> <b>650 MACCORKLE AVENUE WEST</b> <b>ST. ALBANS, WV 25177</b>	<b>SPECIALTY:</b> <b>GEO-TECHNICAL SERVICES</b>	WORKED WITH BEFORE  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>NAME AND ADDRESS:</b>	<b>SPECIALTY:</b>	WORKED WITH BEFORE  <input type="checkbox"/> Yes <input type="checkbox"/> No

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

**X YES** Description and Number of Project: **THRASHER PERFORMS ENGINEERING DESIGN SERVICES TO THE WV DEP FOR DRAINAGE, PORTAL SEALS, HIGHWALL AND OTHER REMEDIATION PROJECTS, AS WELL AS FOR WATER LINE AND WATER TREATMENT PLANT PROJECTS RELATED TO AML. NUMEROUS PROJECTS INVOLVING LAND REMEDIATION, STORM WATER DRAINAGE, SLIP REPAIR, MASS GRADING IN RELATION TO SITE DEVELOPMENT AND HIGHWAY PROJECTS ARE ENGINEERED BY THE FIRM ON A REGULAR BASIS.**

B. Is your firm experienced in Soil Analysis?

**X YES** Description and Number of Projects: **THRASHER MAINTAINS AN AASHTO CERTIFIED MATERIALS TESTING AND ANALYSIS LAB AT BOTH THE BRIDGEPORT AND BECKLEY OFFICES. SOIL ANALYSIS EXPERIENCE IS SPECIFICALLY IN GRADATIONS AND CLASSIFICATION.**

C. Is your firm experienced in hydrology and hydraulics?

**X YES** Description and Number of Projects: **THROUGHOUT THE STATE THRASHER HAS DONE PLANNING AND DESIGN OF BRIDGES FOR THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS AND THE DESIGN OF MULTIPLE PRIVATE AND MUNICIPAL DEVELOPMENT PROJECTS LOCATED WITHIN FLOODPLAINS. THUS THRASHER HAS EXTENSIVE EXPERIENCE IN HYDROLOGY. WE ALSO HAVE A VAST AMOUNT OF EXPERIENCE IN HYDRAULIC MODELING FOR WATER AND WASTEWATER PROJECTS THROUGHOUT WEST VIRGINIA.**

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

**YES** Description and Number of Projects:

**THRASHER RECENTLY ACQUIRED ALL THE SERVICES FROM BLUE MOUNTAIN INC. AS A RESULT OF THIS ACQUISITION, THRASHER HAS STRENGTHEN OUR SURVEY AND MAPPING SKILLS. OUR SERVICES NOW OFFER GIS, LAND SURVEYING, SCANNING, ADVANCED PHOTOGRAMETRY, LIDAR, AND AERIAL MAPPING.**

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

**YES** Description and Number of Projects: **THRASHER HAS DESIGNED MORE WATER LINE SYSTEMS THAN ANY OTHER WEST VIRGINIA FIRM. PROJECTS INCLUDE NEW SYSTEMS, EXTENSIONS AND REPLACEMENTS OF WATER LINE DISTRIBUTION SYSTEMS, MANY OF WHICH HAVE BEEN AFFECTED BY ABANDONED MINE LANDS. DESIGN OF THE PROJECTS INCLUDES LINES, BOOSTER STATIONS, WATER TREATMENT PLANTS, AND STORAGE FACILITIES. THRASHER'S ANALYSIS AND DESIGN ALSO INCLUDES IMPROVEMENTS AND ALTERNATIVES FOR WATER SOURCES DEEMED GROUND WATER UNDER THE DIRECT EFFECT OF SURFACE WATER.**

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

**YES** Description and Number of Projects **THRASHER HAS BEEN AWARDED AND HAS SUCCESSFULLY COMPLETED NUMEROUS RECLAMATION PROJECTS FOR WVDEP RELATED SPECIFICALLY TO ACID MINE DRAINAGE AND ABATEMENT, AS WELL AS, MULTIPLE PASSIVE TREATMENT SYSTEMS DESIGNED FOR WATERSHED PROTECTION GROUPS. THE CHARLESTON WV BRANCH OF OUR COMPANY DESIGNED AN AWARD WINNING WATER TREATMENT PLANT FOR MARTINKA MINES IN MARION COUNTY, WEST VIRGINIA TO TREAT MINE DRAINAGE.**

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:
BILLER, CHADWICK D. P.E.	15	20	20

Brief Explanation of Responsibilities: *Chadwick Biller has experience in all aspects of engineering with specific emphasis on site development, highways, roads, bridges, and airports. Chad joined The Thrasher Group, Inc. in 1999 and is a partner of The Thrasher Group. For The Thrasher Group, Chad is responsible for WV DEP AML project and public and private site development projects, specializing in airports, highways, roads and bridges. As Project Manager for all of the firm's WVDOT/DOH projects, he has extensive knowledge of state and federal building standards.*

EDUCATION (Degree, Year, Specialization):  
*Bachelor of Science, Civil Engineering, 1992 – West Virginia University*

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  
*American Society of Civil Engineers  
 Society of American Military Engineers  
 National Society of Professional Engineers*

REGISTRATION (Type, Year, State)  
*Registered Professional Engineer (PE), State of West Virginia [REDACTED]  
 Registered Professional Engineer (PE), State of Pennsylvania [REDACTED]  
 Registered Professional Engineer (PE), State of Ohio [REDACTED]*

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:
HOVATTER, RICHARD (RJ) – PROJECT MANAGER	12	12	12

Brief Explanation of Responsibilities *As Project Manager, RJ has completed the site design, grading, storm water and erosion and sediment control plans for over twenty private and commercial development. He has also managed over 35 Abandoned Mine Land Emergency and Abandoned Mine Land projects in West Virginia, Maryland and Ohio. RJ has also been the lead on numerous slip remediation projects.*

EDUCATION (Degree, Year, Specialization)  
*Bachelor of Science, 2002, Civil Engineering Technology – Fairmont State University*

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)  
*Professional Engineer (P.E.), 2009, State of West Virginia  
 Professional Engineer (P.E.), 2010, State of Pennsylvania*



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:
BUCHANAN, STEVE	15	15	30

Brief Explanation of Responsibilities

*Steve Buchanan, PE, PS has over three decades of professional experience working on various municipal projects all throughout the Mid-Atlantic region. Steve holds licensure in both engineering and surveying, which has given him the ability to develop projects with a comprehensive understanding of the technical components, as well as land restrictions and site considerations. Over the years, Steve has primarily been involved with public utility projects, and has worked on a wide array of jobs including stormwater management, site planning, hydrologic and hydraulic analysis, wastewater collection system design, water distribution systems, and highway engineering. Steve is heavily involved in all facets of his projects; he manages project design, funding applications, mapping development, and construction coordination for numerous municipalities.*

EDUCATION (Degree, Year, Specialization) **B.S. Civil Engineering – West Virginia University, Civil Engineering**

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)

**Professional Engineer (PE) State of West Virginia [REDACTED]**  
**Professional Engineer (PE) State of Maryland [REDACTED]**  
**Professional Engineer (PE) State of Pennsylvania [REDACTED]**  
**Professional Engineer (PE) State of and Ohio [REDACTED]**  
  
**Professional Surveyor (PS) State of West Virginia [REDACTED]**

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

THE THRASHER GROUP, INC. WILL DESIGN WORK FOR AML UTILIZING ONE OF THE LARGEST NETWORKS OF COMPUTER AIDED DESIGN (CAD) EQUIPMENT, SOFTWARE AND TRAINED PERSONNEL IN THE STATE OF WEST VIRGINIA.

CONNECTED THROUGH A VIRTUAL PRIVATE NETWORK, OUR CAD STAFF HAS THE ABILITY TO SHARE NECESSARY PLANS AMONG OUR LOCATIONS. THIS WILL ALLOW WORK DESIGNED FOR AML TO BE PREPARED AND UPDATED AT THE OFFICE LOCATION THAT BEST MEETS THE NEEDS OF THE SCOPE OF SERVICES. CIVIL 3D, CARLSON AND MICROSTATION V8 SOFTWARE IS UTILIZED AT 70 CAD STATIONS THROUGHOUT OUR LOCATIONS. ADDITIONALLY, EQUIPMENT INCLUDES 10 LARGE FORMAT (SIZE E) PLOTTERS AND 5 LARGE FORMAT PLOTTER / SCANNERS. CAD PLANS ARE PREPARED BY BOTH DEDICATED CAD EMPLOYEES AND BY STAFF ENGINEERS AND ENGINEERING TECHNICIANS IN EACH OF THE FIRM'S OFFICES.

THE THRASHER GROUP, INC. ALSO UTILIZES TOP-OF-THE LINE SURVEY EQUIPMENT. OUR SURVEY WORK IS ACCOMPLISHED WITH GLOBAL POSITIONING SYSTEMS (GPS) AND ELECTRONIC DISTANCE MEASURING (EDM) SURVEY STATIONS WITH DATA GATHERING CAPABILITIES. THE SURVEY CREWS AND OFFICE SUPPORT STAFF GENERATE MAPPING DELIVERABLES IN VIRTUALLY ANY DIGITAL FORMAT REFERENCED TO SPECIFIED PROJECTION SYSTEMS.

ADDITIONAL SURVEY SERVICES INCLUDE: HIGH ACCURACY MONUMENTATION, ASTRONOMIC OBSERVATIONS / ORIENTATION, NGS BLUE BOOKING, HYDROGRAPHIC, TERRESTRIAL SCANNING, 3D AS-BUILTS, 3D MONITORING, SUB-SURFACE UTILITY LOCATION / DESIGNATION. THE FIELD CREWS ARE ALL EQUIPPED WITH LATE MODEL FOUR WHEEL DRIVE VEHICLES STOCKED WITH THE MOST MODERN EQUIPMENT AVAILABLE TO PERFORM PROFESSIONAL LAND SURVEYING SERVICES.

111 TRIMBLE GNSS UNITS  
68 TRIMBLE ROBOTS  
2 PRECISE DIGITAL FIRST ORDER LEVELS WITH INVAR RODS  
39 LEICA, NIKON OR TOPCON TOTAL STATIONS ALL MANAGED BY TRIMBLE TSC3 FIELD COMPUTERS  
2 REMOTE CONTROLLED/UNMANNED MAPPING AERIAL PLATFORM  
HYDROGRAPHIC SURVEY VESSEL  
7 3D SUB-SURFACE UTILITY LOCATORS

CIVIL 3D  
CARLSON AND MICROSTATION V8 SOFTWARE  
70 CAD STATIONS  
10 LARGE FORMAT (SIZE E) PLOTTERS AND  
5 LARGE FORMAT PLOTTER / SCANNERS.

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD  
 THE THRASHER GROUP IS CURRENTLY THE DESIGNATED "ENGINEER OF RECORD" ON MORE THAN 200 ON-GOING PROJECTS. THESE PROJECTS RANGE FROM SIMPLE BOUNDARY SURVEYS WHICH ARE COMPLETED WITHIN A FEW DAYS' TIME TO COMPLETE MUNICIPAL PROJECTS WHICH ARE COMPLETED OVER AN EXTENDED AMOUNT OF TIME. A PARTIAL LISTING OF CURRENT PROJECTS FOLLOWS WHICH DEMONSTRATES THE RANGE OF SERVICES PROVIDED BY THE THRASHER GROUP.

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
MALDEN PUBLIC SERVICE DISTRICT WASTEWATER TREATMENT PLANT KANAWHA COUNTY, WV	MALDEN PUBLIC SERVICE DISTRICT P.O. BOX 350 TAD, WV 25201-0350	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$13,600,000.00	90%
CITY OF RIPLEY, WV WASTEWATER TREATMENT PLANT & SYSTEM IMPROVEMENTS JACKSON COUNTY, WV	CITY OF RIPLEY, WV 203 SOUTH CHURCH STREET RIPLEY, WV 25271	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$13,000,000.00	80%
FOUNTAIN PUBLIC SERVICE DISTRICT WATER SYSTEM PROJECT MINERAL COUNTY, WV	FOUNTAIN PUBLIC SERVICE DISTRICT PO BOX 146 / ROUTE 46 EAST KEYSER, WV 26726	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$10,500,000.00	60%
PEA RIDGE WASTEWATER TREATMENT PLANT CABELL COUNTY, WV	PEA RIDGE PSD 500 NOVA STREET HUNINGTON, WV 25705	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$23,000,000.00	40%
PRESTON COUNTY SEWER PUBLIC SERVICE DISTRICT WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM	PRESTON COUNTY SEWER PUBLIC SERVICE DISTRICT PO BOX 89 BRUCETON MILLS, WV 26525	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION.	\$1,150,000.00	60%
OAK HILL SANITARY BOARD TWO WASTEWATER TREATMENT PLANT UPGRADES	OAK HILL SANITARY BOARD 100 KELLY AVENUE OAK HILL, WV 25901	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$20,000,000.00	50%
BERKELEY COUNTY PUBLIC SERVICE SEWER DISTRICT RIVERSIDE PUMP STATION INSTALLATION BERKELEY COUNTY, WV	BERKELEY COUNTY PSSD PO BOX 944 MARTINSBURG, WV 25402	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$7,000,000.00	25%

TOTAL NUMBER OF PROJECTS: 7 SHOWN

TOTAL ESTIMATED CONSTRUCTION COSTS: \$88,250,000



17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOU WERE THE DESIGNATED ENGINEER OF RECORD:  
**AML RELATED PROJECTS FOR THE WVDEP AND WATERSHED PROTECTION GROUPS**

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
PLEASANT VALLEY AML RECLAMATION MARION COUNTY, WV	WV DEP, OFFICE OF AML&R 601 57 <sup>TH</sup> STREET, SE CHARLESTON, WV 25304	\$764,000.00	2013	YES
ROGER CAMP HILL AML RECLAMATION TUCKER COUNTY, WV	WV DEP, OFFICE OF AML&R 601 57 <sup>TH</sup> STREET, SE CHARLESTON, WV 25304	\$210,000.00	2013	YES
OWL CREEK HIGHWALL #2 AML RECLAMATION MONONGALIA COUNTY, WV	WV DEP, OFFICE OF AML&R 601 57 <sup>TH</sup> STREET, SE CHARLESTON, WV 25304	\$1,590,000.00	2014	NO
LANDGRAFF REFUSE PILE AML RECLAMATION MCDOWELL COUNTY, WV	WV DEP, OFFICE OF AML&R 601 57 <sup>TH</sup> STREET, SE CHARLESTON, WV 25304	\$324,000.00	2014	NO
CANYON REFUSE AND DUMP AML RECLAMATION MONONGALIA COUNTY, WV	WV DEP, OFFICE OF AML&R 601 57 <sup>TH</sup> STREET, SE CHARLESTON, WV 25304	\$1,004,000.00	2014	NO
STOWE (PRINCE) LANDSLIDE EMERGENCY AML LOGAN COUNTY, WV	WV DEP, OFFICE OF AML&R 601 57 <sup>TH</sup> STREET, SE CHARLESTON, WV 25304	\$220,000.00	2015	YES
LAMBERTON RUN SITE 7 PASSIVE AMD TREATMENT SYSTEM HARRISON COUNTY, WV	GUARDIANS OF THE WEST FORK 830 BENONI AVE. FAIRMONT, WV 2554	\$340,000.00	2015	YES
SWAMP RUN #1 PASSIVE AMD TREATMENT SYSTEM UPSHUR COUNTY, WV	BUCKHANNON RIVER WATERSHED ASSOCIATION 112 FAYETTE STREET, BUCKHANNON, WV 26201	\$440,000.00	2015	NO

18. COMPLETED WORK WITHIN LAST 5 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
CITY OF BECKLEY INTERMODAL GATEWAY	CITY OF BECKLEY 409 S. KANAWHA STREET BECKLEY, WV 25801	\$250,000.00	2012	YES	PARSONS BRINCKERHOFF

19. USE THIS SPACE TO PROVIDE ANY ADDITIONAL INFORMATION OR DESCRIPTION OF RESOURCES SUPPORTING YOUR FIRM'S QUALIFICATIONS TO PERFORM WORK FOR THE WV ABANDONED MINE LANDS PROGRAM

SEE ATTACHMENT – STATEMENT OF QUALIFICATIONS

20. THE FOREGOING IS A STATEMENT OF FACTS.

SIGNATURE:



TITLE: PARTNER / PRINCIPAL-IN-CHARGE

DATE:

PRINTED NAME: CHADWICK D. BILLER, P.E.