



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

Header

 List View

General Information

[Contact](#)

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[Discount](#)

[Document Information](#)

Procurement Folder: 138519

Procurement Type: Central Contract - Fixed Amt

Vendor ID: 000000206513 

Legal Name: TERRADON CORPORATION

Alias/DBA:

Total Bid: \$0.00

Response Date: 11/12/2015 

Response Time: 12:01

SO Doc Code: CEOI

SO Dept: 0313



SO Doc ID: DEP1600000010

Published Date: 10/30/15

Close Date: 11/12/15

Close Time: 13:30

Status: Closed

Solicitation Description: Addendum 01 Elkins-Randolph
County Landfill Closure Cap 


Total of Header Attachments: 0

Total of All Attachments: 0

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Water testing services				

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :	Site Characterization Study, Leachate Management and Closure Cap Design for the Elkins-Randolph County Landfill per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.
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Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
02 – Architect/Engr

Proc Folder: 138519

Doc Description: Addendum 01 Elkins-Randolph County Landfill Closure Cap

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-10-30	2015-11-12 13:30:00	CEOI 0313 DEP1600000010	2

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV 25305

US

VENDOR

Vendor Name, Address and Telephone Number:

TERRADON Corporation, Inc.

409 Jacobson Drive

Poca, WV 25159

304-755-8291

FOR INFORMATION CONTACT THE BUYER

Beth Collins

(304) 558-2157

beth.a.collins@wv.gov

Signature X

FEIN #

55-0687626

55-0687626

DATE

11/11/15

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

ADDITIONAL INFORMATION:

Engineering and Design

Addendum No. 01:

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To modify the bid opening date to November 12, 2015 at 1:30PM, EST.

2. To provide answers to vendor submitted questions.

No other changes.

CRFQ

The West Virginia Purchasing Division, for the Agency, the West Virginia Department of Environmental Protection, is soliciting Expressions of Interest for professional mapping and design services for the Elkins-Randolph County Landfill project located in Randolph County, West Virginia, per the attached bid requirements and specifications.

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF ENVIRONMENTAL REMEDIATION 601 57TH ST SE CHARLESTON WV25304 US		ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue
1	Water testing services		

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Extended Description :

Site Characterization Study, Leachate Management and Closure Cap Design for the Elkins-Randolph County Landfill per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.

SCHEDULE OF EVENTS

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
1	Tech Questions Deadline at 5:00 PM, EST	2015-10-09

DEP1600000010	Document Phase Final	Document Description Addendum 01 Elkins-Randolph Co unty Landfill Closure Cap	Page 3 of 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

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.

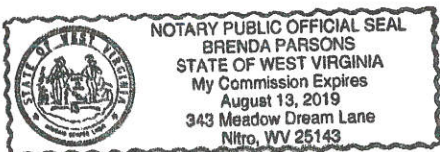
WITNESS THE FOLLOWING SIGNATURE:Vendor's Name: TERRADON Corporation, Inc.Authorized Signature: Thomas J. Kithredge Date: 11/5/15State of West VirginiaCounty of Putnam, to-wit:Taken, subscribed, and sworn to before me this 5th day of November, 2015.My Commission expires August 13, 2019.

AFFIX SEAL HERE

NOTARY PUBLIC

Brenda Parsons

Purchasing Affidavit (Revised 07/01/2012)



CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

TERRADON Corporation, Inc.

(Company)

Thomas Y. Kittredge Thomas Y. Kittredge, President
(Authorized Signature) (Representative Name, Title)

304-755-8291 304-755-2636 11/03/15
(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

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

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

Addendum Numbers Received:
(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.

TERRADON Corporation

Company


Authorized Signature

11/03/15
Date

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

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

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

1. Application is made for 2.5% vendor preference for the reason checked:

- ☐ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
☐ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
☐ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,

2. Application is made for 2.5% vendor preference for the reason checked:

- ☐ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,

3. Application is made for 2.5% vendor preference for the reason checked:

- ☐ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,

4. Application is made for 5% vendor preference for the reason checked:

- ☒ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,

5. Application is made for 3.5% vendor preference who is a veteran for the reason checked:

- ☐ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,

6. Application is made for 3.5% vendor preference who is a veteran for the reason checked:

- ☐ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

7. Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules.

- ☒ Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

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

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

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

Bidder: TERRADON Corporation, Inc.

Signed: James J. Kethode

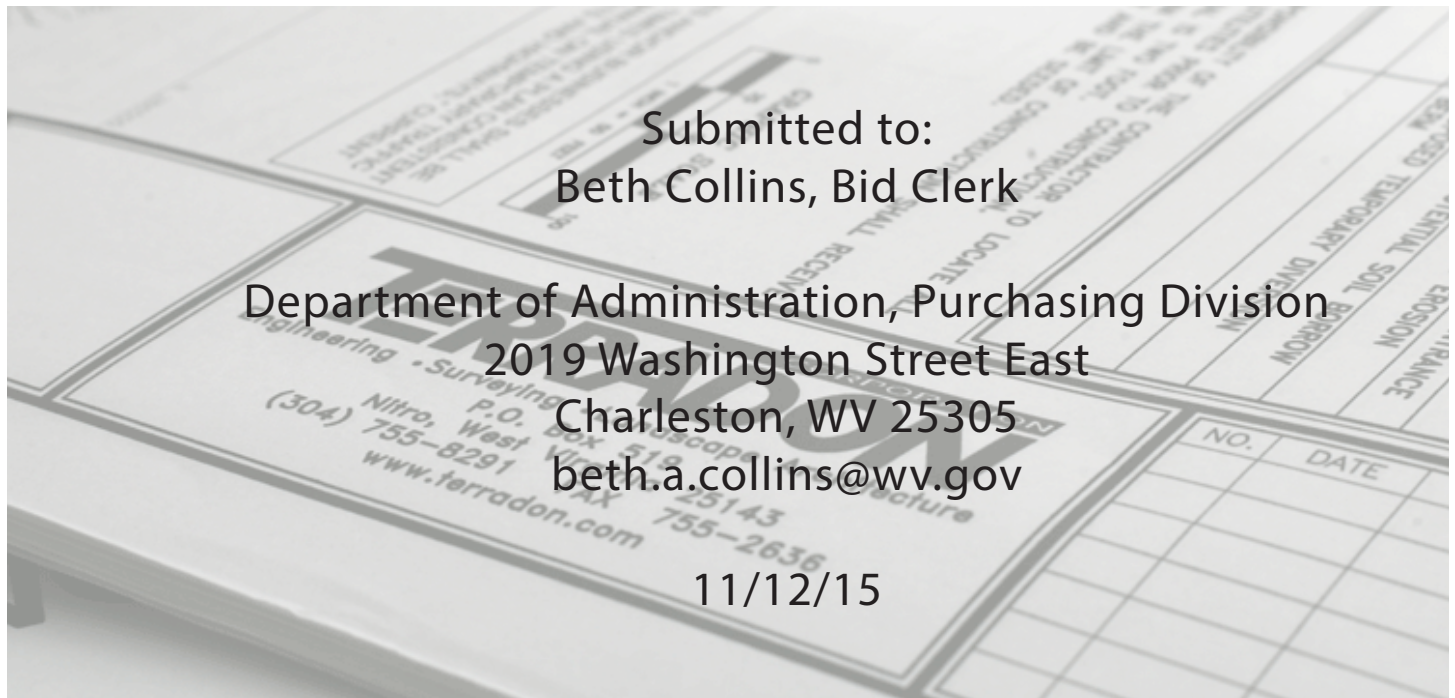
Date: 11/05/15

Title: President

Engineering . Land Planning . Surveying . Testing & Inspection

Statement of Qualifications and Expression of Interest for

DEP1600000010
Elkins-Randolph County Landfill Closure Cap



Corporate Office
409 Jacobson Dr.
Poca, WV 25159
304-755-8291

Greenbrier County, WV
425 North Jefferson St.
Lewisburg, WV 24901
304-645-4636

Jackson County, WV
101 North Court Street
Ripley WV, 25271
304-532-4909

Fayette County, WV
P.O. Box 307
Charlton Heights, WV 25040
304-541-7655

CORPORATE OVERVIEW

TERRADON Corporation offers a multi-faceted approach to design engineering and consulting services. For more than 25 years TERRADON staff has provided a wealth of engineering solutions blanketing the Ohio Valley 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 50 leading-edge staff in five locations: Nitro/Poca, WV; Lewisburg, WV; Clarksburg, WV; Charlton Heights, WV; and Ripley OH. TERRADON'S departments work cohesively to provide turn-key solutions that strive to exceed client expectations.

ABOUT TERRADON

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 several State Divisions of Highways, Departments of Environmental Protection and the American Institute of Architects state chapters.

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

- Civil Engineering
- Environmental
- Geotechnical Engineering
- Surveying and Mapping
- Water/Wastewater
- Land Planning and Site Design
- Transportation Engineering
- Structural Engineering



LANDFILL DESIGN PROJECTS



- **Ham Landfill Expansion Project**
TERRADON Corporation provided site characterization, surveying, mapping, subsurface investigation, groundwater study, monitoring, cell design, major modification to permit, and Certificate of Need application for the Ham Sanitary Landfill Expansion Project in Peterstown, WV.
- **Jackson County Sanitary Landfill**
As part of the WVDEP's Landfill Closure Assistance Program, TERRADON Corporation prepared interim closure plan including stormwater management, leachate management, sediment pond and leachate pond repairs, regarding and re-vegetation of disturbed areas for the Jackson County Sanitary Landfill in Jackson County, WV.
- **Pine Creek Landfill**
For the WVDEP LCAP, TERRADON Corporation designed the permanent closure plan including an additional landfill cell, stormwater management, capping, leachate management and storage tank, construction QC and certification for the abandoned landfill in Logan County, WV.
- **Tucker County Landfill, Cell 5 Design and Certification**
For the Tucker County Solid Waste Authority, TERRADON Corporation performed surveying, mapping, subsurface investigation, groundwater study, monitoring, cell design, and construction observation and certification for the extension of Cell 5 at the Tucker County Landfill in Davis, WV.
- **Tucker County Landfill, Cell 6 Design**
For the Tucker County Solid Waste Authority, TERRADON Corporation performed surveying, mapping, subsurface investigation, groundwater study, construction monitoring and certification, cell design, major modification to permit, and Certificate of Need application for six acre cell at the Tucker County Landfill in Davis, WV.
- **Tucker County Landfill, Cell 7 Design**
For the Tucker County Solid Waste Authority, TERRADON Corporation performed major modification of permit, geotechnical investigation, new 50-year cell design, and leachate pond closure plan, groundwater statistical report, leachate management, QA/QC services, stormwater ponds, subsurface investigation, and Certificate of Need (CON) application for 20 acre cell (Cell 7) at the Tucker County Landfill in Davis, WV.
- **Copper Ridge Landfill**
TERRADON provided services to Enviro Solutions for the Cooper Ridge Landfill in Capels, WV. The project had a \$5.6 Million construction cost.
- **Wyoming County Sanitary Landfill**
TERRADON Corporation provided site characterization; stormwater management; leachate management including storage tank, pump station and force main to POTW; slope stability regarding; and Subtitle D cap for the WVDEP for the Wyoming County Sanitary Landfill.

GEOTECHNICAL ENGINEERING

TERRADON offers some of the most experienced staff in the region for local geotechnical expertise. This team of experts brings a distinctive, specialized understanding of the difficult soil and groundwater conditions found in the Ohio Valley and Appalachian Regions of the United States.

The Geotechnical group has provided investigations associated with earthen dams, mining, waste disposal, new building construction, landslides analysis and remedial design, cell and high mast towers, landfill permitting and cap design, flexible/rigid pavement design, and environmental remediation.



SERVICES INCLUDE

- Municipal and Industrial Landfills
- Test Borings
- Test Pit Excavations
- Monitoring Well and Piezometer Installation
- Soil and Rock Logging, Sampling and Testing
- Landslide Analysis and Remedial Design
- Stability Analysis
- Retaining Structure Design
- Earthen Dams
- Foundation Design
- Flexible and Rigid Pavement Design

GEOTECHNICAL DESIGNS INCLUDE

- Complete Removal for Landslide Repair
- Removal, Stabilization, Replacement
- Buttreassing and Regrading
- Subsurface Drainage
- Structural Corrections
- Retaining Walls
- MSE Walls and Other Gravity Walls
- H-Piles and Lagging
- Anchors (Rock or Soil Nailing) In Combination with Above if Applicable



ENVIRONMENTAL SERVICES



Constantly changing federal and state environmental requirements are difficult to track and can have a serious impact on businesses and other organizations. TERRADON offers a strong environmental services team to manage issues in a complex environment. Staff is well-versed on environmental permitting processes and regulations as well as site assessment and reporting.

TERRADON closely follows environmental activities on the local, state and federal levels. TERRADON has a thorough understanding of state and federal environmental permitting processes and regulations. This expertise applies to both the initial permit preparations, as well as subsequent negotiations affecting the permit. The firm's strength in addressing environmental issues is built on the diversity of its staff with credentials in chemistry, civil engineering, geotechnical engineering and geology.

SERVICES INCLUDE

- Environmental Site Assessments
 - Phase I ESA
 - Phase II ESA
- Hazardous Waste
- Process Water
- Wastewater
- Storm Water
- Groundwater
- Air Permitting
- Risk Management Plans
- Wetland Delineation
- Tier II Reporting
- Emergency Response Plans
- Environmental Audits
- Environmental Remediation
- NEPA Compliance
- Asbestos and Lead Inspection
- Underground Storage Tanks
- Impoundment Stabilization and Closure
- SPCC Planning
- BMP Planning



TESTING & INSPECTION



TERRADON offers materials testing and construction monitoring services to document compliance with project design specifications and regulatory requirements. The firm provides construction monitoring for utility, highway, and commercial construction projects. TERRADON also provides laboratory and field testing of construction materials. Engineers and technicians at TERRADON are West Virginia Department of Highways certified in Portland Cement Concrete, Hot-mixed Asphalt, Compaction and Aggregates.

SERVICES INCLUDE

Materials Testing & Inspection

- Slump of Portland Cement Concrete (AASHTO-T119)
- Air Content of Freshly Mixed Concrete (AASHTO-T196 and T152)
- Unit Weight and Yield (AASHTO-T121)
- Making and Curing of Concrete Test Specimens (AASHTO-T23)
- Compressive Strength of Concrete Specimens (AASHTO-T22)
- Fine and Course Aggregate Gradations (AASHTO-T11 and T27)
- Specific Gravity of Aggregates (AASHTO-T84 and T85)
- Atterberg Limits (AASHTO-T89 and T90)
- Moisture Content of Soil (ASTM-D2216)
- Nuclear Compaction Testing of Soil, Stone, and Hot Mixed Asphalt
- Preparation of Certification Forms and Construction Reports
- Welder Certification

Specialty Testing and Inspection

- Floor Flatness Testing
- Fireproofing
- Masonary Testing
- Structural Steel Inspection
 - Certified Welding Inspection
 - Dye Penetrant Testing
 - Bolt Testing
- Project Safety Monitoring
- FAA Eastern Regional Laboratories List

Construction Monitoring

- Document compliance with project design specifications
- Ensures compliance with regulatory requirements
- OSHA 10-Hour and 30-Hour Construction Safety & Health Certified



SURVEYING & MAPPING

TERRADON is well-versed in completing successful transportation survey projects, having provided design and construction survey services for numerous projects during the company's 24-year history. An expert staff of professional surveyors provides mapping, construction layout, ALTA survey, topographic survey, GPS network control surveys for aerial and LiDAR mapping projects, and boundary survey services. Efficient and accurate results are ensured by prioritizing the use of modern technology, including state of the art GPS and robotic total stations, with the latest design software.



TERRADON maintains five full-time Professional Surveyors on staff. The firm services projects through the use of seven in-house field survey crews who are backed by 60 corporate staff members, including an experienced team of CAD designers. TERRADON's transportation survey group is experienced in preparing highway right of way plans, including courthouse research and right of way questionnaires, and writing legal descriptions for right of way take parcels, temporary construction easements and permanent drainage easements.

TERRADON surveyors are currently providing design survey services for several Ohio Department of Transportation (ODOT) projects. Additionally, TERRADON maintains an on-call survey contract with the West Virginia Department of Transportation (WVDOT), where it has provided design and construction surveys for numerous bridges and highway projects. TERRADON has also provided design and/or construction surveys for Virginia Department of Transportation (VDOT) projects.

TERRADON's Professional Surveyors are licensed in Ohio, West Virginia, Kentucky, Virginia, Pennsylvania and Tennessee.

STAFFING PLAN

TERRADON Corporation maintains sufficient full-time staff in order to complete quality projects in an efficient and timely manner. The company maintains staffing protocols in order to supplement staff should project demands increase. At present time, TERRADON has adequate staff in-house to manage and complete project tasks in relation to this contract.

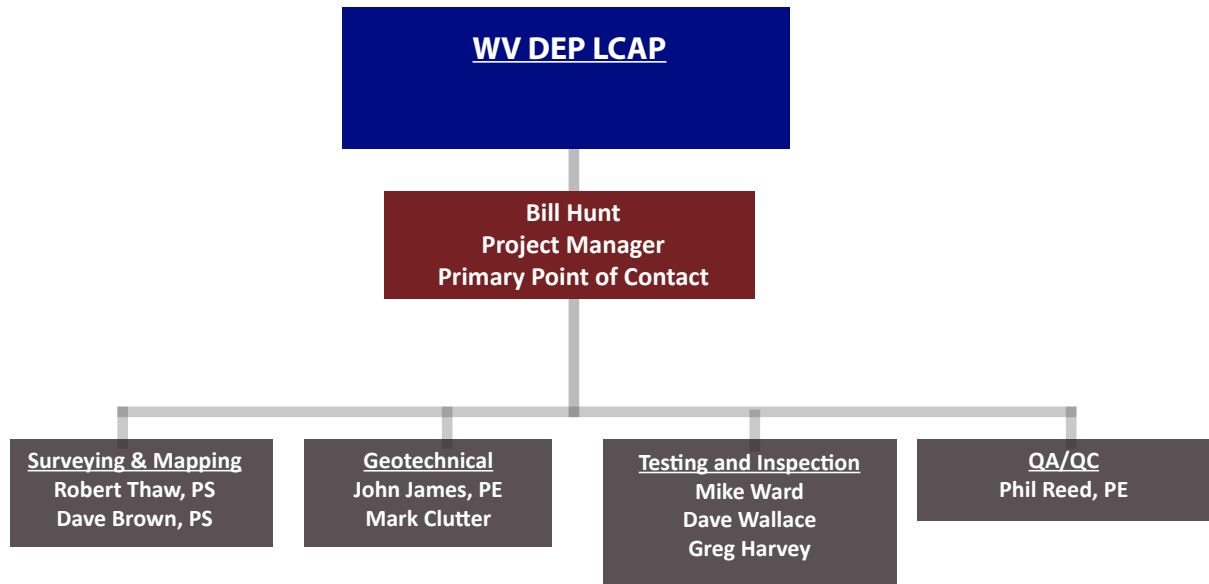
TERRADON engineers have numerous resources within the company to draw on, such as surveying, geotechnical engineering, environmental engineering, landscape architecture, materials testing, and construction monitoring. This allows the project manager to control all phases of the design process, from initial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

Key Personnel and Estimated Current Availability

Name	Project Role	Percent Availability 40/Hr Work Week
Bill Hunt, PG, LRS	Project Manager	60
	Primary Point of Contact	
Phil Reed, PE	Project Engineer	60
John James, PE	Project Engineer	60
Robert Thaw	Surveyor	50
Dave Brown	Surveyor	60
Mark Clutter	Geotechnical Designer	60
Chris Morris	Inspector	50
Mike Ward	Inspector	50
Dave Wallace	Inspector	50
Greg Harvey	Inspector	50

Proposed Roles/Organizational Chart

The following organizational chart lists key personnel and their roles in this project:



Bill Hunt, PG, LRS

Vice President of Geo-Environmental, Testing & Inspection

Bill Hunt is a Professional Geologist, Licensed Remediation Specialist and Vice President of the Geo-Environmental department at TERRADON Corporation. Hunt offers relevant experience in environmental documentation, investigations, and coordination with federal, state, and local agencies. He prepares Environmental Impact Statements, Environmental Assessments, Section 4(f) Evaluations, and other environmental technical documents. He supervises and participates in work plan development, field surveys, on-site monitoring, data collection, impact analysis, subconsultant management, public meeting organization and group presentations.

Relevant Project Experience

Skinner Landfill -- West Chester, OH

- Work included groundwater sampling and monitoring
- Soil boring inspection, soil logging and sampling

CECOS International Landfill -- Williamsburg, OH

- Soil and groundwater sampling
- RCRA Closure sampling of roadway

Wright Patterson AFB Former Landfill Closure -- Fairborn, OH

- Soil and Leachate Sampling
- Project Health and Safety Plan Preparation
- Project Safety Oversight/Air Monitoring
- Work was conducted using Levels B, C and D personnel protection

Shell Methane Recovery System -- Rumpke Landfill -- Colerain Township, OH

- Supervised drilling program to install methane recovery wells as designed by Shell.

Waste Assessment -- Rumpke Landfill -- Colerain Township, OH

- Design and oversight of program to assess waste limits at two cells at the landfill. Field activities consisted of soil borings and use of ground penetrating radar to determine the horizontal extent of waste burial at two cells of this landfill.

Capping of Heavy Metals Contaminated Soils -- Marilla Street Landfill -- Buffalo, NY

- Prepared Health and Safety Plan, designed decontamination stations, and conducted perimeter air monitoring during construction (capping) actions.

Closure of Coal Tar Landfill -- US Steel -- Elyria, OH

- Prepared Health and Safety Plan, designed decontamination stations, and conducted air monitoring during construction actions. Also oversaw the excavation, removal, over-packing and disposal of unknown waste drums encountered at the site.

Waste Assessment -- Charleston Landfill -- Charleston, WV

- Design and oversight of program to assess waste limits at two cells at the landfill. Field activities consisted of soil borings and use of ground penetrating radar to determine the horizontal and vertical extent of waste buried at two cells of this landfill.

Groundwater Monitoring and Statistical Analysis -- Tucker County Landfill -- Davis, WV

- Conduct Semi-Annual groundwater monitoring and statistical analysis of groundwater data. Data is analyzed using DumpStat software package. Reporting is provided to WVDEP semi-annually.

Greenhouse Gas Emissions -- Tucker County Landfill -- Davis, WV

- Estimation of greenhouse gas emissions for the facility from 2010 to 2013. Emission estimates were modeled utilizing US EPA Subpart HH estimation equations for Municipal Solid Waste Landfills. Calculated emissions were reported to USEPA through their electronic reporting system (e-GGRT).



Education

B.S. Environmental Science,
Morehead State University

M.A. Geography,
Ohio University

Work Experience

2010—Present
TERRADON Corporation
VP Geo-Environmental

2008—2010
NGE, LLC
Environmental Services Manager

2001—2008
Superior Marine Ways
Director, Environmental Health
& Safety

1991-2001
H.C. Nutting Company
Environmental Group Leader

1989—1991
PSARA Technologies
Environmental Services Division
Manager

1986—1989
Westinghouse
Environmental Scientist

Mark Clutter

LANDFILL DESIGN ENGINEER

Mark Clutter is a Project Manager/Design Engineer who is experienced in preparing construction documents and associated permitting for numerous projects throughout Kentucky, Ohio, and West Virginia including: creating 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.

Clutter's landfill experience adheres to the WVDEP's Landfill Closure Assistance Program (LCAP) for landfill designs and construction, including all closure-related activities such as: leachate management control, sediment and erosion, natural gas management, groundwater monitoring, and a final cover on non-composite lined landfills.

Relevant Project Experience

- **Tucker County Landfill (TCLF), Cell 7 Design**
For the Tucker County Solid Waste Authority, performed major modification of the permit, geotechnical investigation, new 50-year cell design, and leachate pond closure plan, groundwater statistical report, leachate management, QA/QC services, stormwater ponds, subsurface investigation, and Certificate of Need (CON) application, HELP mode and installation of monitoring wells for a 20 acre cell at the Tucker County Landfill in Davis, WV.
- **Tucker County Landfill Permitting**
Solid Waste Facility Siting Plan, Certificate of Need, Certificate of Site Approval, Part 1-Site Evaluation Application, Part 2-Design Application, DWWWM-Module A-NPDES, Major Modification, Quarterly Report, Annual Report for the Tucker County Landfill.
- **Tucker County Landfill Cells 1-4 Capping**
The project consists of capping approximately 20 acres of previous landfill cells with a HDPE Liner. The project included the following: preparation of construction drawings, technical specifications, contract and bidding documents, advertisements for bid, design report outlining the calculations to support the design, Erosion and Sediment Control permits, modifications to the NPDES storm water permit, permits to the West Virginia Solid Waste Authority for capping and reuse of methane, air pollution control permits for use of the methane gas emissions, and field services for Quality Control.
- **Tucker County Landfill**
TERRADON provides quarterly surveying of the current landfill surface and calculation of the quarterly volume and compaction rate; producing semi-annual statistical analysis and reports; creating annual reports that include: construction activities, financials, MSW tonnage, leachate generation, groundwater and discharge monitoring reports, and air-space summaries.
- **Ham Landfill Expansion Project**
Provided site characterization, surveying, mapping, subsurface investigation, groundwater study, monitoring, cell design, major modification to permit, and Certificate of Need application for the Ham Sanitary Landfill Expansion Project in Peterstown, WV.
- **LCAP EXPERIENCE**
Provided design and permitting for the following under the WVDEP LCAP Program:
 - Pine Creek/Omar Landfill, 12 Acres HDPE Liner, Pine Creek, Logan County, WV
 - Buckhannon Landfill, 14 Acres Geosynthetic Clay Liner, Buckhannon, WV
 - Don's Disposal, 24 Acres HDPE Liner, near Eden's Fork, Kanawha County, WV
 - McDowell County Landfill, 12 Acres HDPE Liner, near Welch, McDowell County, WV



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.
2000-2010

WV Army National Guard
1990-2003

John James, PE Geotechnical Engineer

Mr. James is a Senior Geotechnical Engineer for various environmental, transportation, and mining projects. Mr. James specializes in innovative and cost-saving concepts for his projects.

James' project experience includes: studies and designs for landfills and environmental facilities; surface and ground water studies and remediation; design of liners for landfills and various impoundments; earth and rockfill dams; roads; highways and bridges; numerous foundation investigations; foundation investigations and designs ranging in size from small projects to major industrial complexes; storm drainage facilities; airport facilities; landslide analysis and correction; and forensic engineering.

Relevant Project Experience

- **Tucker County Landfill (TCLF)**
James has been the lead design engineer/engineer of record for the TCLF for the past 10 years, including responsibility for siting, permitting, design and all other services for the landfill. He has devised many cost-saving solutions and designs, including the incidental mining of previous mined-out coal workings for a cost savings for \$8,000,000 of \$10,000,000 Cell 7 cost.
- **Ham Landfill Expansion Project**
Provided site characterization, surveying, mapping, subsurface investigation, groundwater study, monitoring, cell design, major modification to permit, and Certificate of Need application for the Ham Sanitary Landfill Expansion Project in Peterstown, WV.
- **LCAP Experience**
Provided design and permitting for the following under the WVDEP LCAP Program:
 - Pine Creek/Omar Landfill, 12 Acres HDPE Liner, Pine Creek, Logan County, WV
- **Dam Experience**
James has been Engineer of Record for numerous earth and rock fill dams in West Virginia, and some recent projects include: Mallard Dam (presently in design), 8 acres; Upper Glade Creek Water Supply Dam upgrade (from 95 to 112 acres+/-; Dawson Dam, 30 acres+/-; Lake Chaweva Reconstruction, 24 acres+/-; and Chatham Dam, 65 acres+/-). Also provided consultation and construction design for the United States Army Corps of Engineers for Bluestone Dam.
- **Site Selection Experience**
James specializes in site evaluation from geologic and topographic perspectives with an ability to visualize relevant features of both geotechnical and topographical, including literature research and site reconnaissance, for specific project needs.
- **Transportation Experience**
Worked on numerous roadway (cut and fill slopes) designs, landslide evaluation and remediation, site designs for numerous projects and foundation investigations for approximately 1,000 projects in West Virginia and the surrounding states.
- **Landslide Experience**
Worked on numerous landslides of all sizes and complexity in West Virginia.
- **Foundation Investigation and Design**
Performed foundation investigation services for more than 1,000 projects in West Virginia, from small residential sites to major industrial projects (valued at up to \$2 B) including complicated foundation designs.
- **Retaining Walls**
Designed numerous retaining structures including simple gravity concrete and MSU walls, cantilever walls and complicated sheet piling or H pile and lagging walls.



Education

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

Work Experience

TERRADON Corporation
2004-Present

James Engineering
1983-2004

Triad Engineering
1978-1983

James Engineering
1973-1978

Ackenherl & Associates
1968-1973

US Geological Survey
(Part-time College Intern)

Philip Reed, PE

Lewisburg Office Director, Civil Engineer

Philip Reed serves as TERRADON'S Lewisburg, WV Office Director and provides services to clients for Engineering Design, Quality Control and Materials Testing. Reed provides technical direction on a variety of civil engineering markets including landfills, commercial and industrial developments, housing, energy and infrastructure. Reed is responsible for engineering analysis and modeling, design, regulatory compliance and permitting, in addition to quality control and assurance. He has more than 20 years of experience in landfill design and construction.

Relevant Project Experience

- **HAM Sanitary Landfill**
Responsible for all aspects of solid waste landfill permitting (H.A.M. Sanitary Landfill, Inc.), including: Certificate of Site Approval through local county Solid Waste Authority; Certificate of Need through Public Service Commission; Part 1 Solid Waste Facility Permit to include geologic and hydrologic evaluation of site; Part 2 Solid Waste Facility Design Application to include site design, leachate modeling, and composite liner design; and solid waste cell construction drawings, Construction Specifications, and Construction Quality Assurance / Quality Control Plan. Also responsible for all aspects of Construction Monitoring, including: monitoring of construction of both municipal solid waste disposal cells and Construction/demolition and asbestos disposal cells; responsible for construction stakeout and monitoring of construction, and Final Certification of construction.
- **Triana Energy Fresh Water Impoundment**
Responsible for site design, construction certification, and bi-weekly inspections for 15 acre-feet freshwater impoundment in Northern, WV. Responsible for oversight of construction monitoring inspectors, reporting and permit compliance.
- **Summit Bechtel Reserve**
Provided Engineering Support for a 12,000-acre site development in Fayette County, WV. Oversaw site layout, grading, and survey support for one of the largest infrastructure projects in West Virginia. Oversaw all QC services and provided project direction of 20 inspectors and technicians during installation of more than 100 miles of utilities and nearly 50 miles of roadway construction. Additional inspection and monitoring activities included vertical construction of three buildings and an iconic wingtip pedestrian bridge.
- **Gordy Oil**
Provided survey and design for 5 natural gas pads and support for freshwater impoundments.
- **Environmental Permitting**
Managed environmental permitting of rock quarries (RBS Inc., ALTA Sand Quarry, and Muddy Creek Mountain Stone) to include air pollution control permits and water quality permits.
- **Sporting Club, Creekside Apartments**
Responsible for surface drainage remediation and rehab for the Sporting Club, Creekside Apartments, White Sulphur Springs, WV.
- **West Virginia School of Osteopathic Medicine**
Evaluated the stormwater system and designed a sink hole underground injection system for the WVSOM in Lewisburg, WV.
- **Greenbrier Valley Medical Center**
Evaluated the stormwater system and designed a sink hole underground injection system for the medical center in Ronceverte, WV.
- **City of Alderson**
Evaluated drainage issues and made remediation recommendations for the City of Alderson, WV.



Education

B.S. Civil Engineering Virginia Polytechnic Institute and State University

Affiliations

2005 – Present
TERRADON Corporation

1999 – 2005
Engineering & Testing 2000, Inc.

1991 – 1997
Brackenrich & Associates, Inc.

1990 – 1991
Cornerstone Land Surveying

1988 – 1990
Norfolk Southern Railway

Affiliations

Professional Engineer:
West Virginia, Virginia

American Concrete Institute

Certifications

WVDOH Certified Portland Cement Concrete Technician

WVDOH Certified Compaction Technician

Robert Thaw, PS

Vice President - Survey and Mapping

With more than 30 years of experience in a wide range of surveying projects, Robert Thaw serves as head of TERRADON's Survey and Mapping department. He organizes and supervises survey crews, reviews project plans and creates base mapping for various projects including: landfills, noise barriers, interchanges, connectors, bypasses, sidewalks, bike paths and bridges.

Thaw oversees all TERRADON survey activities, including: preparation of Right-Of-Way plans; the development of GPS static networks for aerial mapping in the design of roadways; identification of existing utilities and property lines; base image development and control placement for construction projects; and drafting of legal descriptions for ROW parcels.

Thaw has been directly responsible for survey and mapping services on a number of landfill projects including:

- **Nitro Landfill Topographic Survey**
Surveyed the boundary of the former Landfill for future cap and development. Performed topographic survey of the site, prepared project mapping.
- **Tucker County Landfill**
Established survey control for the landfill. Created topographic surveys on a quarterly basis to be used for volume reporting.
- **Charleston Landfill**
Performed topographic surveys, and located bore hole locations
- **Charleston Landfill for Geotechnical Studies**
Conducted a feasibility study for Leachate tank siting. Performed topographic surveys of proposed leachate tank sites to be used in the feasibility study.
- **Nicholas County Landfill Design**
Provided survey services to establish control for the landfill. Created topographic surveys for design studies.
- **AEP – John Amos Power plant industrial Landfill - Client, Shelly and Sands, Inc.**
Established survey control, performed topographic surveys used for access road design, Completed construction staking for access road, and excavation, provided daily volume reports.

**Education**

A.S., Survey Technology, 1981,
West Virginia Institute of
Technology

B.S., Surveying, 1985,
West Virginia Institute of
Technology

Work Experience

TERRADON Corporation
1994-Present

Bowman Land Surveying
1992-1994

Dunn Engineers
1990-1992

Kelley Gidley Blair and Wolf
1988-1990

Pierson & Whitman
Architects and Engineers
1984-1986

Registration

Professional Surveyor,
West Virginia

Chris Morris

Senior Inspector

Chris Morris is a Senior Inspector for TERRADON Corporation. He is responsible for quality control testing and inspection for WVDOT, commercial, and residential construction projects throughout West Virginia. He interfaces with site owners (public and private) and contractors to complete testing and inspection projects.

Morris is responsible for monitoring contractor's work for conformance to the design plans, specifications and general permit requirements; experience tracking daily quantities, completing daily inspection reports, reviewing payment requisitions and maintaining field sketchbooks and as-built drawings.

Morris holds the following registrations:

- WVDOH Compaction Inspection
- WVDOH Portland Cement/Concrete
- WVDOH Asphalt Plant Technician
- WVDOH Asphalt Field Technician Compaction
- WVDOH Aggregate Inspector
- Nuclear Radiation Safety Officer
- FAA Eastern Regional Laboratories List
- PTI—Post-Tensioning Institute Level #2
- OSHA 10-Hour Construction Safety and Health

Morris has completed Testing and Inspection Services on the following notable projects:

- Mingo County Airport—Williamson, WV - Primary QA Technician
- Western Regional Jail—Barboursville, WV - Owners QA Technician of Auger Cast Pile Installation
- AEP John Amos Plant—Winfield, WV - QA/QC mass concrete pours for large mat foundations and contractor's QC of controlled fill and various concrete placement.
- AEP Glen Lynn Power Plant, Glen Lynn, VA - Observation and Density Control
- Charleston Landfill—Charleston, WV - Observation and Density Control
- Raleigh Memorial Airport—Beckley, WV - Observation and Density Control
- Winfield Locks and Dam—Winfield, WV - Observation and Density Control
- Blennerhassett Bridge—Parkersburg, WV - QA/QC for all facets of construction of new bridge
- AEP Kyger Creek Power Plant—Cheshire, OH - Observation and Density Control

Dave Wallace

Senior Inspector

Dave Wallace is a West Virginia Certified Compaction Inspector who is responsible for quality control testing and inspection for WVDOT, commercial, and residential construction concerns. He is the interface with site owners (public and private) and contractors to complete high quality projects. He works independently at sites throughout West Virginia and maintains appropriate documentation.

Relevant Project Experience

- Southridge Industrial Park
- Garden Ground Materials Testing and Construction Monitoring
- Office of Surface Mining Compaction Testing
- State Route 34 Widening
- US Route 35 - Interstate 64 Interchange
- US Route 35 - New Construction of approximately 1.5 miles of road
- WVDOH District 3 (Parkersburg) - Consultant for Materials Inspection
- WV Corridor D (four sections)
- Stollings-Logan Road
- Merritts Creek Connector
- Witcher Creek
- Ripley Bridge
- Williamstown Welcome Center
- Route 60, S. Charleston
- Robinson Run Bridge
- Crab Creek Bridge
- I-64 Sign Renovation
- 1-77 Sign Renovation
- Clay County Salt Shed
- Levee Renovation
- Scott Lane

Work Experience

2001 - Present
TERRADON Corporation

1998-2001
Compro Systems

1995-1997
Sherman International
(Concrete Technician)

1992-1995
Brown & Root

1990-1991
CTL Engineering

1981-1991
H. C. Nutting Company

1976-1979
Orders and Haynes Paving
Company

Certifications

WVDOH Certified Portland
Cement/Concrete Inspector

WVDOH Certified Compaction
Inspector

WVDOH Certified Agg. Sampler

WVDOH Asphalt Design

WVDOT Asphalt Field
Compaction

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

OPEC SafeLandUSA

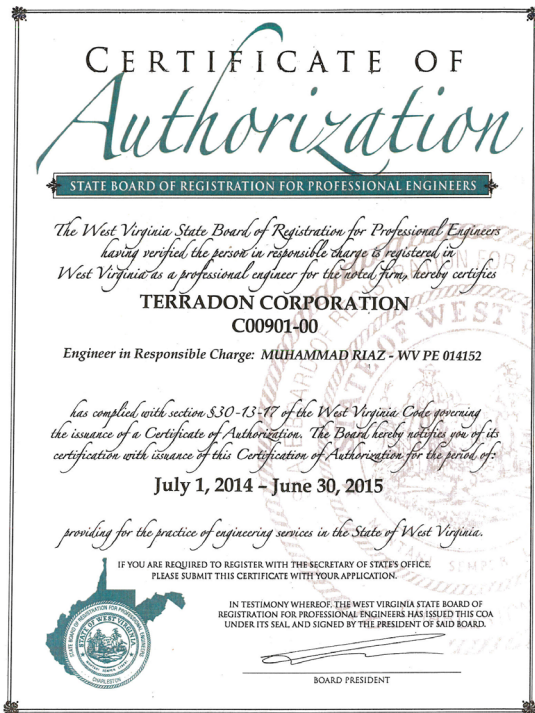
Greg Harvey

Construction Inspection/Monitoring

Relevant Project Experience

- **S&S Landfill, Clarksburg WV (now owned by Waste Management)**
QA/QC and Inspection which included but was not limited to; Earthwork, Drainage, Concrete and HDPE Liner. The various projects included 3 new MSW cells and one cell that was tied into an existing cell. Total cost was approximately 9 million dollars.
- **Nicholas County Landfill, Craigsville WV**
Environmental Study for WV LCAP Program which included but was not limited to; Field work and Final report preparation.
- **Fayette County Landfill Closure, Cunard WV**
Design, QA/QC and Inspection which included but was not limited to; Earthwork, Drainage, Concrete and HDPE Liner. The Project was a landfill closure under WVLCAP program.
- **McDowell County Landfill Closure**
Project Management/ Construction Management, Design, QA/QC and Inspection which included but was not limited to; Earthwork, Drainage, Concrete and HDPE Liner. The Project was a landfill closure under WVLCAP program.
- **Union Carbide/ Dow Chemical Environmental Remediation Project**
Construction management of a \$40 Million remediation project which involved the removal of phenol and monochloric benzene from a stream and the construction of 4 hazardous landfills and stream bank stabilization. Coordinated with the US EPA, Ohio EPA and the plants industrial neighbors.

CERTIFICATES OF AUTHORIZATION



TERRADON CORPORATION is a certified Women's Business Enterprise as defined by the Women's Business Enterprise National Council.

TERRADON is the largest woman-owned engineering firm in West Virginia and is controlled by Virginia King, who provides more than 32 years of administrative experience to the company.



CORPORATE CULTURE

TERRADON Corporation offers a multi-faceted approach to design engineering and consulting services. For the past 25 years TERRADON staff has provided a wealth of engineering solutions blanketing the Appalachian and Mid-Atlantic region with successful projects. The company built its reputation on expert personnel and quality, time-sensitive service. Those same founding principles hold true today.

The second-generation, family-owned business has built a strong reputation by providing flexible, cost effective design solutions and maintaining the highest level of customer service. The firm has been recognized through numerous awards from professional organizations and agencies including the American Society of Civil Engineers, State Highway Departments, the Department of Environmental Protection and the 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.



TERRADON is a certified Women's Business Enterprise as defined by the Women's Business Enterprise National Council and is the largest woman-owned engineering firm in West Virginia.

Corporate Office
409 Jacobson Dr.
Poca, WV 25159
304-755-8291

Greenbrier County, WV
425 North Jefferson St.
Lewisburg, WV 24901
304-645-4636

Jackson County, WV
101 North Court Street
Ripley WV, 25271
304-532-4909

Fayette County, WV
P.O. Box 307
Charlton Heights, WV 25040
304-541-7655

CONTACTS

Project Opportunities

Ryan Wheeler

ryan.wheeler@terraddon.com

Energy, Environmental, Geotechnical, Testing & Inspection

Bill Hunt, PG, LRS

bill.hunt@terraddon.com

Land Development

Greg Fox, ASLA, LEED AP

greg.fox@terraddon.com

Survey & Mapping

Robert Thaw, PS

robert.thaw@terraddon.com

Transportation, Abandoned Mine Lands

Joe Saunders, PE

joe.saunders@terraddon.com

Civil, Water, Wastewater & Stormwater

Will Thornton, PE, PS

will.thornton@terraddon.com

www.terraddon.com

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION CONSULTANT QUALIFICATION QUESTIONNAIRE			
PROJECT NAME Elkins Randolph County Landfill Closure Cap		DATE (DAY, MONTH, YEAR) 11/11/2015	
FEIN 55-0687626			
1. FIRM NAME TERRADON Corporation	2. HOME OFFICE BUSINESS ADDRESS 409 Jacobson Drive, Poca, WV 25159		3. FORMER FIRM NAME
4. HOME OFFICE TELEPHONE 304-755-8291	5. ESTABLISHED (YEAR) 1989	6. TYPE OWNERSHIP INDIVIDUAL, X CORPORATION , PARTNERSHIP, JOINT-VENTURE	6A. WV REGISTERED DBE (DISAVANTAGED BUSINESS ENTERPRISE) YES X NO
7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type) PERSONNEL EACH OFFICE 409 Jacobson Drive, Poca, WV 25159/304-755-8291/Ashley L Lioi/34 425 North Jefferson Street, Lewisburg, WV 24901/ (304) 645-4636 / Philip Reed, PE, Branch Manager / 5 persons PO Box 307, Charlton Heights, WV 25040 / (304) 541-6165 / Will Thornton, PE, PS / 2 persons 101 N. Court Street, Ripley, WV 25271/304-532-4909/Jennifer Casey, PE/2 persons			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Virginia L. King, Owner, Chief Financial Officer Tom Kittredge, President		8a. NAME, TITLE, & TELEPHONE NUMBER-OTHER PRINCIPALS Ashley Lioi, PE 304-755-8291	
9. NUMBER OF PERSONNEL BY DISCIPLINE (Bold Lettering Indicates Minimum Design Team Members) Detailed information On Team To Be Included			
8 ADNIMSIRATIVE	ECOLOGISTS	2 LANDSCAPE	2 STRUCTURAL
ARCHITECTS	ECONOMISTS	ARCHITECTS	ENGINEERS
BIOLOGIST	ELECTRICAL	MECHANICAL	5 SURVEYORS
3 CADD OPERATORS	ENGINEERS	ENGINEERS	
CHEMICAL ENGINEERS	1 ENVIRONMENTALISTS	MINING	OTHER
12 CIVIL ENGINEERS	ESTIMATORS	ENGINEERS	
7 CONSTRUCTION	2 GEOLOGIST	PHOTOGRAMMETRISTS	
INSPECTORS	HISTORIANS	PLANNERS:	50 TOTAL
1 DESIGNERS	2 HYDROLOGISTS	URBAN/REGIONAL	PERSONNEL
DRAFTSMEN		SANITARY	
		ENGINEERS	
		3 SIOLS ENGINEERS	
		SPECIFICATION	
		WRITERS	
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 7			
*RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.			
10. If submittal is by joint venture, list participating firms & outline specific areas of responsibility (including administrative, technical, & financial) for each firm. Each participating firm must complete a "Consultant Confidential Qualification Questionnaire".			
10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE?		YES	NO

11. OUTSIDE KEY CONSULTANTS/ SUB-CONSULTANTS ANTICIPATED TO BE USED.		
NAME AND ADDRESS: Tuck Mapping Services 1928 Wildcat Road P.O. Box 760 Big Stone Gap, VA 24219	SPECIALTY: Aerial Photography and Topographic Mapping	WORKED WITH BEFORE <u>YES</u> NO
NAME AND ADDRESS: Genesis Drilling P.O. Box 494 Scott Depot, WV 25560	SPECIALTY: Drilling, Soil Boring and Rock Coring	WORKED WITH BEFORE <u>YES</u> NO
NAME AND ADDRESS: ALS Laboratories 1740 Union Carbide Drive South Charleston, WV 25303	SPECIALTY: Laboratory Analysis of Water Samples	WORKED WITH BEFORE <u>YES</u> NO
NAME AND ADDRESS: Triad Engineering Teays Valley Road Scott Depot, WV 25560	SPECIALTY: Soils Laboratory Testing	WORKED WITH BEFORE <u>YES</u> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE YES NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE YES NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE YES NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE YES NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE YES NO

12. A. Is your firm experienced in (Solid Waste Landfill Closure Design)?

YES Description and Number of Projects:

PLEASE SEE ATTACHMENT 12. A

NO

B. Is your firm experienced in Solid Waste landfill site characterization assessment and evaluation?

YES Description and Number of Projects:

PLEASE SEE ATTACHMENT 12. B

NO

C. Is your firm experienced in landfill closure construction inspection?

YES Description and Number of Projects:

PLEASE SEE ATTACHMENT 12. C

NO

D. Is your firm experienced in Aerial Photography and the Development of Contour Mapping?

YES Description and Number of Projects:

PLEASE SEE ATTACHMENT 12.D

NO

E. Is your firm experienced in evaluating ground water contamination, such as may be associated with landfills?

YES Description and Number of Projects:

PLEASE SEE ATTACHMENT 12.E

NO

F. Is your firm experienced in Landfill Closure cost estimating?

YES Description and Number of Projects:

YES Description and Number of Projects:

PLEASE SEE ATTACHMENT 12.F

NO

13. PERSONAL HISTORY STATMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (describe project) (Furnish Complete data but keep to essentials)			
NAME& TITLE (Last, first, Middle Int.) James, John, W.	YEARS OR EXPERIENCE		
	YEARS OF (type) EXPEIRENCE: 47	YEARS OF (type) EXPEIRENCE:	YEARS OF (name type) EXPEIRENCE:
Brief Explanation of Responsibilities: <u>Mr. James' project responsibilities include: studies and designs for landfills and environmental facilities; surface and ground water studies and remediation; design of liners for landfills and various impoundments; earth and rockfill dams; roads; highways and bridges; numerous foundation investigations; foundation investigations and designs ranging in size from small projects to major industrial complexes; storm drainage facilities; airport facilities; landslide analysis and correction; and forensic engineering</u>			
EDUCATION (DEGREE, YEAR, SPECIALIZATION) BS Civil Engineering, 1968, Geotechnical			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS: American Society of Civil Engineers Society of American Military Engineers		REGISTRATION (Type, Year, State)	
13a.PERSONAL HISTORY STATMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (name type of design or work) (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.) Clutter, Mark, A.	YEARS OF EXPEIRENCE		
	YEARS OF EXPEIRCENE (name type): 10	YEARS OF EXPEIRENCE (name type):	YEARS OF EXPEIRENCE (name type):
Brief Explanation of Responsibilities: Mark Clutter is a Project Manager/Design Engineer who is experienced in preparing construction documents and associated permitting for numerous projects throughout Kentucky, Ohio, and West Virginia including: creating 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. Clutter's landfill experience adheres to the WVDEP's Landfill Closure Assistance Program (LCAP) for landfill designs and construction, including all closure-related activities such as: leachate management control, sediment and erosion, natural gas management, groundwater monitoring, and a final cover on non-composite lined landfills.			
EDUCATION (Degree, Year, Specialization) BS Civil Engineering Technology, 2000, Geotechnical			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	

13b. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE QA/QC (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle Int.) Reed, Philip, W.	YEARS OF EXPEIRENCE		
	YEARS OF EXPERIENCE (name type): 25	YEARS OF EXPEIRENCE (name type):	YEARS OR EXPEIRENCE (name type):
<p>Brief Explanation of Responsibilities:</p> <p>Philip Reed provides services to clients for Engineering Design, Quality Control and Materials Testing. Reed provides technical direction on a variety of civil engineering markets including landfills, commercial and industrial developments, housing, energy and infrastructure. Reed is responsible for engineering analysis and modeling, design, regulatory compliance and permitting, in addition to quality control and assurance. He has more than 20 years of experience in landfill design and construction.</p>			
<p>EDUCATION (Degree, Year, Specialization)</p> <p>1988, Civil Engineering, Geotechnical</p>			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	
		PE, 2006, WV PE, 2006, VA	
13c. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES REPOSNSIBLE FOR HEAVY EARTH WORK CONSTRUCTION PROJECTS (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle Int.) Hunt, Bill, D.	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type) 30	YEARS OF EXPERIENCE (name type)	YEARS OF EXPERIENCE (name type)
<p>Brief Explanation of Responsibilities</p> <p>Bill Hunt is a Professional Geologist, Licensed Remediation Specialist and Vice President of the Geo-Environmental department at TERRADON Corporation. Hunt offers relevant experience in environmental documentation, investigations, and coordination with federal, state, and local agencies. He prepares Environmental Impact Statements, Environmental Assessments, Section 4(f) Evaluations, and other environmental technical documents. He supervises and participates in work plan development, field surveys, on-site monitoring, data collection, impact analysis, subconsultant management, public meeting organization and group presentations.</p>			
<p>EDUCATION (Degree, Year, Specialization)</p> <p>MA Geography, 1985, Resource Management BS, Environmental Studies, 1981, Geology</p>			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	
		PG, 1999, Indiana LRS, 2005, WV	

[illegible]

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD ASSOCIATED WITH OR RELATING TO LANDFILL CLOSURE OR CONSTRUCTION.

PROJECT NAME,TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESOPNSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Tucker County Landfill Cell 5 Extension	Tucker County Solid Waste Authority Davis , WV	Survey, Mapping, Subsurface Investigation, Groundwater Investigation and Monitoring, Cell Design and Construction monitoring and Certification	\$600,000	100% Complete
Tucker County Landfill Cell 6 New Cell Design and Construction	Tucker County Solid Waste Authority Davis , WV	Survey, Mapping, Subsurface Investigation, Groundwater Investigation and Monitoring, Major Permit Modification, Cell Design and Construction monitoring and Certification	\$720,000	100% Complete
Tucker County Landfill Cell 7A New Cell Design and Construction – 7 acre cell	Tucker County Solid Waste Authority Davis , WV	Survey, Mapping, Subsurface Investigation, Groundwater Investigation and Monitoring, Major Permit Modification, Certificate of Need, Cell Design and Construction Monitoring and Certification	\$840,000	100% Complete
HAM Sanitary Landfill Certificate of Need	HAM Sanitary Landfill Inc. Peterstown, WV	Part 1 – Solid Waste Facility Permit including geologic and hydrologic evaluation of the site.	\$158,000.00	100 % Complete
HAM Sanitary Landfill Part 2 – Solid Waste Facility Design Application	HAM Sanitary Landfill Inc. Peterstown, WV	Part 2 – Solid Waste Facility Design including Site design, leachate modeling, composite liner design, cell	\$950,000.00	100 % Complete

		construction drawings and QA/QC plan.		
Jackson County Sanitary Landfill WV LCAP Program Interim Closure Plan	Jackson County Solid Waste Authority P.O. Box 800 Ripley, WV	Interim Closure Plan including storm water and leachate management planning, sediment and leachate pond design	\$3,299,683	100 % Complete
Pine Creek Landfill WV LCAP Program	Pine Creek Omar Landfill, Inc. PO Box 99 Cora, WV 25614	designed the permanent closure plan including an additional cell, storm water management, capping, leachate management and storage tank, construction QC and certification for the abandoned landfill.	\$1,306,325	100 % Complete
Wyoming County Sanitary Landfill	Wyoming County Commission Wyoming County Courthouse PO Drawer 309 Pineville, WV 24874	site characterization; storm water management and leachate management design including storage tank, pump station and force main to POTW; slope stability; and Subtitle D Cap for the WVDEP	\$1,427,522	100 % Complete
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS:	
# <u>8</u>			\$ <u>9,301,530</u>	

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS RELATING TO LANDFILL CLOSURE AND CONSTRUCTION.

[illegible]

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
KCRDA 2009 Sissonville, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	\$282,000	2010	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 Million	2011	Yes
AEP-Gavin Plant Sed Pond #2 Expansion Cheshire, WV	American Electric Power 1530 Winfield Road Winfield, WV 25213	\$3 Million	2011	Yes
Venus (Hamilton) Drainage AML Reclamation Design McDowell County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$200,000	2011	Yes
Drews Creek Highwall AML Reclamation Design Raleigh County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$500,000	2011	Yes
Kingwood Route 7 Highwall AML Reclamation Project Preston County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$350,000	2011	Yes

Robinette Branch Refuse Pile AML Reclamation Design Logan County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$814,000	2011	Yes
Harris Branch Refuse Pile Design AML Reclamation Project McDowell County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$150,000	2010	Yes
Shabbyroom Hollow Complex AML Reclamation Project McDowell County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$750,000	2010	Yes
Gains Highwall AML Reclamation Project Harrison County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	\$450,000	2011	Yes
Manila Ridge Extension Engineering Poca, WV	Putnam County Commission 3389 Winfield Road Winfield, WV 25213	\$1 Million	2012	Yes
WV Air National Guard Design/Inspect ion Charleston, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	\$2 Million	2013	Yes
Mallory (Gibson) Portals Design Mallory, WV	WVDEP/AML&R 601 57th Street SE Charleston, WV 25304	\$500,000	2013	Yes

Montgomery 6th Ave. Pump Station Montgomery, WV	Sanitary Board Of Montgomery 706 Third Avenue Montgomery, WV 25136	\$500,000		No
Ham Sanitary Landfill - Peterstown WV	HAM Sanitary Landfill P.O. Box 576 Peterstown, WV 24963	\$1 Million	2013	Yes
Northern Wayne County PSD Force Main Replacement Wayne, WV	Northern Wayne County PSD P.O. Box 775 Lavallette, WV 25535	\$325,000	2013	No
Northern Wayne County PSD Metering Wayne, WV	Northern Wayne County PSD P.O. Box 775 Lavallette, WV 25535	\$25,000	2011	Yes
Upper Glade Creek Dam Improvements	Beckley Water Company Po Box 2400 Beckley, WV 25802-2400	\$35,000.00	2013	No
Charleston Replacement Housing	Alan Ives Construction 709 Patrick St Charleston, WV, 25312	\$20 Million	2013	Yes
Noise Wall in Pennsylvania	ECA - Eastern Operations 500 Corporate Landing Charleston, West Virginia 25311-1264	\$300,000	2014	
Edgewood Country Club Sissonville, WV	ECC 1600 Edgewood Drive Charleston, WV 25302	\$150,000	2014	
MOT-75-21.96 Vandalia, OH	Ohio Department of Transportation 1980 W. Broad St.	\$400,000	2014	NO

	Mailstop: 4100, 1st Floor Columbus, Ohio 43223			
Verizon Wireless Cell Tower Nitro, WV	Verizon Wireless 18 Abele Road Bridgeville, PA 15017	\$200,000	2014	
Verizon Wireless Cell Tower Goldtown, WV	Verizon Wireless 18 Abele Road Bridgeville, PA 15017	\$200,000	2014	
West Virginia GSA Office Complex Fairmont, WV	State of West Virginia 1900 Kanawha Blvd E Charleston, WV 25305	\$25 Million	2014	YES
Poca Elementary School Poca, WV	Putnam County Board of Education 3022 Winfield Rd, Winfield, WV 25213	\$12 Million	2014	YES
Winfield Middle School Winfield, WV	Putnam County Board of Education 3022 Winfield Rd, Winfield, WV 25213	\$15 Million	2014	YES
Courtyard Hotel Charleston, WV	VIM, Inc. P.O. Box 359 123 North Court Street Fayetteville, WV 25840	\$14 Million	2014	YES
Gerrardstown Middle School Gerrardstown, WV	Berkley County Board of Education 401 S Queen St, Martinsburg, WV 25401	\$13 Million	2014	YES
South Preston PK-8 School	Preston County Board of	\$13 Million	2014	YES

Tunnelton, WV	Education 731 Preston Drive Kingwood, WV 26537			
Leading Creek Elementary School	Lewis County Board of Education 239 Court Avenue Weston, WV 26452	\$13 Million	2014	YES
Advantage Valley Advanced Technology Center South Charleston, WV	WV Higher Education Policy Commission 1018 Kanawha Boulevard, E., Suite 700 Charleston, WV 25301	\$15 Million	2014	YES
Cabell County Bus Garage Lesage, WV	Cabell County Board of Education WV Higher Education Policy Commission 1018 Kanawha Boulevard, E., Suite 700 Charleston, WV 25301	\$10 Million	2014	YES
Energy Corporation of America Charleston, WV	Energy Corporation of America 501 56th Street SE Charleston, West Virginia 25304	\$12 Million	2014	YES
East Hardy High School	Hardy County Board of Education 510 Ashby Street Moorefield, WV 26836	\$15 Million	2014	YES
WVSU Student Housing Institute, WV	West Virginia State University 5000 Fairlawn Ave, Dunbar, WV 25112	\$16 Million	2014	YES
Weisburg Applied	Marshall University	\$30 Million	2014	YES

Sciences Building Huntington, WV	One John Marshall Drive Huntington, WV 25755			
Smith Fastener South Charleston	Smith Fastener 7500 MacCorkle Ave., SE P.O. Box 4356 Charleston, West Virginia 25364	\$10 Million	2014	YES

18. COMPLETED WORK WITHIN LAST 5 YEARS IN WHICH YOUR FIRM HAS BEEN A SUBCONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK WHICH YOUR FIRM WAS RESPONSIBLE) LIST 5 TO 7.

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
Summit Bechtel Reserve Boy Scouts of America Glen Jean, WV	Boy Scouts of America PO Box 152079, Irving, TX 75015-	\$50,000,000	2013	Yes	Trinity Works/Arrow WV, Inc.
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 WV Department of Environmental Protection.

TERRADON CORPORATION is well qualified to provide all of the services as described in the Scope of Services of the Request for Qualifications to include: site investigation of existing features, surveying and mapping, laboratory analysis of soil and water, subsurface investigations to determine location as well as limits and depths of waste, location of potential borrow areas either on-site or nearby, engineering and design of the capping system to be installed including grading plans and cross sections of the cap system, leachate collection and storage systems, sediment and erosion control plans including required ponds, preparation of construction contract drawings and specifications suitable for letting of construction bids and all applicable permitting. TERRADON's professional staff and previous experience with the WVDEP LCAP program and other municipal/industrial waste landfills will allow us to provide you with a quality project in a timely manner.

20. The foregoing is a statement of facts

Signature: 

Title: VP, Geo-Environmental

Date: 11/12/15

Printed

Name: Bill Hunt

ATTACHMENT 12.A PERSONNEL

TERRADON CORPORATION is well qualified to provide all of the services as described in the Scope of Services of the Request for Qualifications to include: site investigation of existing features, surveying and mapping, laboratory analysis of soil and water, subsurface investigations to determine location as well as limits and depths of waste, location of potential borrow areas either on-site or nearby, engineering and design of the capping system to be installed including grading plans and cross sections of the cap system, leachate collection and storage systems, sediment and erosion control plans including required ponds, preparation of construction contract drawings and specifications suitable for letting of construction bids and all applicable permitting. TERRADON's professional staff and previous experience with the WVDEP LCAP program and other municipal/industrial waste landfills will allow us to provide you with a quality project in a timely manner.

Tucker County Landfill, Cells 5-7 (Ongoing)

For the Tucker County Solid Waste Authority, TERRADON Corporation performed surveying, mapping, subsurface investigation, groundwater study, construction monitoring, cell design, and construction observation and certification for the extension of Cell 5 at the Tucker County Landfill in Davis, WV.

For Cell 6, TERRADON performed surveying, mapping, subsurface investigation, groundwater study, construction monitoring and certification, cell design, major permit modification, and Certificate of Need application for a six acre cell at the Tucker County Landfill in Davis, WV.

Cell 7, for the Tucker County Solid Waste Authority, performed major modification of the permit, geotechnical investigation, new 50-year cell design, and leachate pond closure plan, groundwater statistical report, leachate management, QA/QC services, stormwater ponds, subsurface investigation, and Certificate of Need (CON) application, HELP mode and installation of monitoring wells for a 20 acre cell at the Tucker County Landfill in Davis, WV.

TERRADON provides quarterly surveying of the current landfill surface and calculation of the quarterly volume and compaction rate; producing semi-annual statistical analysis and reports; creating annual reports that include: construction activities, financials, MSW tonnage, leachate generation, groundwater and discharge monitoring reports, and air- space summaries.

Tucker County Landfill Permitting Included: Solid Waste Facility Siting Plan, Certificate of Need, Certificate of Site Approval, Part 1-Site Evaluation Application, Part 2-Design Application, DWWM-Module A-NPDES, Major Modification, Quarterly Report, Annual Report for the Tucker County Landfill.

Tucker County Landfill Cells 1-4 Capping

The project consisted of capping approximately 20 acres of previous landfill cells with a HDPE Liner. The project included the following: preparation of construction drawings, technical specifications, contract and bidding documents, advertisements for bid, design report outlining the calculations to support the design, Erosion and Sediment Control permits, modifications to the NPDES storm water permit, permits to the West Virginia Solid Waste Authority for capping and reuse of methane, air pollution control permits for use of the methane gas emissions, and field services for Quality Control.

Ham Landfill Expansion Project (Ongoing)

TERRADON Corporation provided site characterization, surveying, mapping, subsurface investigation, groundwater study, monitoring, cell design, major modification to permit, and Certificate of Need application for the Ham Sanitary Landfill Expansion Project in Peterstown, WV.

Jackson County Sanitary Landfill

As part of the WVDEP's Landfill Closure Assistance Program (WVDEP LCAP), TERRADON Corporation prepared an interim closure plan including stormwater management, leachate management, sediment pond and leachate pond repairs and re-vegetation of disturbed areas for the Jackson County Sanitary Landfill in Jackson County, WV.

Pine Creek Landfill

For the WVDEP LCAP, TERRADON Corporation designed the permanent closure plan including an additional landfill cell, stormwater management, capping, leachate management and storage tank, construction QC and certification for the abandoned landfill in Logan County, WV.

Wyoming County Sanitary Landfill

TERRADON Corporation provided site characterization; stormwater management and leachate management design including storage tank, pump station and force main to POTW; slope stability; and Subtitle D Cap for the WVDEP for the Wyoming County Sanitary Landfill.

ATTACHMENT 12.B ASSESMENT AND EVALUATION

TERRADON was retained by the WVDEP to complete a site characterization of the Pinecreek/Omar Landfill. The site characterization included surveying, subsurface investigation including auger and rock core borings, leachate and surface water sampling, groundwater user

survey including sampling of water wells, review of historical records, site reconnaissance, assessment of the sites' compliance with the Solid Waste Management Rules, and development of a conceptual closure plan. See Attachment 12.A for more project examples.

ATTACHMENT 12.C CONSTRUCTION INSPECTION

TERRADON is experienced in landfill closure construction inspection. TERRADON's construction monitoring and QA/QC services include final certifications of the construction. TERRADON will prepare construction reports to including test data, daily field activity logs, and as-built record drawings along with the certification.

ATTACHMENT 12.D CONTOUR MAPPING

TERRADON's is experienced in aerial photography and development of contour mapping. TERRADON has the equipment and staff to produce contour mapping. TERRADON has been directly responsible for survey and mapping services on a number of landfill projects. See Attachment 12.A for project examples and additional landfill projects listed below.

Nitro Landfill Topographic Survey

Surveyed the boundary of the former landfill for future cap and development. Performed topographic survey of the site, prepared project mapping.

Tucker County Landfill

Established survey control for the landfill. Created topographic surveys on a quarterly basis to be used for volume reporting.

Charleston Landfill

Performed topographic surveys, and located bore hole locations.

Charleston Landfill for Geotechnical Studies

Conducted a feasibility study for Leachate tank siting. Performed topographic surveys of proposed leachate tank sites to be used in the feasibility study.

AEP -John Amos Power Plant Industrial Landfill -Client, Shelly and Sands, Inc.

Established survey control, performed topographic surveys used for access road design, Completed construction staking for access road, and excavation, provided daily volume reports.

ATTACHMENT 12.E GROUNDWATER

TERRADON is experienced in evaluating groundwater contamination associated with landfills. TERRADON has qualified and experienced staff to handle the evaluation of groundwater contamination. We complete semi-annual groundwater monitoring at Tucker County Landfill along with statistical analysis and reporting of results to WVDEP. TERRADON routinely samples groundwater monitoring wells on several industrial, voluntary remediation, and landfill sites in West Virginia. See Attachment 12.A for more project examples.

ATTACHMENT 12.F COST ESTIMATING

TERRADON is experienced in landfill closure cost estimating. TERRADON has prepared engineers construction cost estimates for numerous landfill projects to include Closure/Post Closure Costs. See Attachment 12.A for project examples.