

**SUBMITTED BY:**  
TERRADON Corporation  
409 Jacobson Drive  
Poca, WV 25159  
304-755-8291

**PROJECT MANAGER &  
POINT OF CONTACT**  
Will Thornton, PE, PS  
VP Civil Engineering  
Will.thornton@terraddon.com  
304-541-7655

## STATEMENT OF QUALIFICATIONS

CEOI 0211 GSD2000000002

WV Capitol Complex Hardscape Repairs Project

Attn:  
Ms. Melissa K. Pettrey, Senior Buyer  
WV State Purchasing Division  
2019 Washington Street, East  
Charleston, WV 25305  
Melissa.k.pettrey@wv.gov

RECEIVED  
2019 SEP 12 PM 3:24  
WV PURCHASING  
DIVISION



terraddon.com

P.O. Box 519  
Nitro, WV 25143  
Tel: 304-755-8291

P.O. Box 1635  
Lewisburg, WV 24901  
Tel: 304-645-4636

102 East Maple Avenue  
Fayetteville, WV 25840  
Tel: 304-541-7655

102 S. 2<sup>nd</sup> Street  
Clarksburg, WV 26301  
Tel: 304-755-8291

September 11, 2019

Subject:

CEOI 0211 GSD2000000002, WV Capitol Complex Hardscape Repairs Project

Attn: Ms. Melissa K. Pettrey, Senior Buyer  
WV State Purchasing Division  
2019 Washington Street, East  
Charleston, WV 25305  
Melissa.k.pettrey@wv.gov

Dear Ms. Pettrey and members of the Selection Committee:

TERRADON is pleased to submit the enclosed package for the above referenced project.

TERRADON proposes the following qualifications to provide engineering design and consulting services for the WV Capitol Complex Hardscape Repairs. The included package details the TERRADON team's qualifications, expertise, management and staffing capabilities, prior experience related to the proposed, and required documentation for consideration.

The TERRADON team will be the division's partner through every phase of the conceptual design and planning of the proposed project. As your consulting team, our goal is to provide the full realm of engineering services that the division needs to successfully complete this project.

TERRADON is a full-service engineering firm headquartered in Poca, WV with offices in Lewisburg, WV and Fayetteville, WV as well as Clarksburg, WV. TERRADON maintains qualified personnel in site-civil and transportation engineering as well as ancillary services needed on this project such as, surveying and mapping services, environmental and geotechnical services, and construction management and inspection services.

TERRADON plans to lead these projects under the management of William S. Thornton, PE, PS. Thornton has many years of experience completing quality hardscape/repairs, stormwater design, and site-civil and recreational development projects in the Appalachian Region.

Upon your review of the enclosed, please do not hesitate to contact me at 304-755-8291 with any questions or concerns. I look forward to hearing from you soon.

Sincerely,

Ryan Wheeler  
TERRADON Corporation



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Corporate Profile.....1

Experience With Similar Projects.....8

Project Approach & Staffing Plan.....15

Appendix A: Resumes

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1

Corporate Profile

TERRADON Services Overview | 1







**FOUNDED:** 1989

**EMPLOYEES:** 95

**LOCATIONS:**

Poca, WV  
Lewisburg, WV  
Fayetteville, WV  
Clarksburg, WV

**SERVICES:**

Civil Engineering  
Environmental Engineering  
Environmental Inspection  
Testing & Inspection  
Construction Monitoring  
Construction Administration  
Geotechnical Engineering  
Transportation Engineering  
Structural Engineering  
Cultural Resources  
Archaeological Assessment  
Geotechnical Engineering  
Land Planning & Design  
Survey & Mapping  
Water & Utility Design

TERRADON Corporation offers a multi-faceted approach to design engineering and consulting services. For more than 30 years TERRADON staff has provided a wealth of engineering solutions blanketing West Virginia and surrounding states with successful projects. The company built its reputation on expert personnel and quality, time-sensitive service. Those same founding principles hold true today.

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 diverse team of professionals work together on projects to offer a wide range of services in house to keep project centrally focused. By providing this range of services, TERRADON is able to work completely as a team to offer clients the most rewarding design.

TERRADON maintains professionally registered engineers, landscape architects, and surveyors as well as a competitive team of highly certified inspectors and environmental specialists.

TERRADON has experience working on projects funded by various agencies. Because of the variety of funding options for projects, TERRADON offers client support to help make funding projects easier.

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 the largest, woman-owned engineering firm in West Virginia and is a certified Women's Business Enterprise.*





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: 614853

Doc Description: Addendum No. 1 Hardscape Repairs Project

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2019-08-30	2019-09-13 13:30:00	CEOI 0211 GSD2000000002	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:

**FOR INFORMATION CONTACT THE BUYER**

Melissa Pettrey  
(304) 558-0094  
melissa.k.pettrey@wv.gov

Signature X

FEIN # 55-0687626

DATE 09/09/2019

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



**ADDENDUM INFORMATION**

Addendum No. 1

Addendum No. is published or issued and distribute the attached information to the vendor community.  
\*\*\*\*\*

**EXPRESSION OF INTEREST**

The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the West Virginia Department of Administration, General Services Division from qualified firms to provide architectural/engineering services, design services, construction bidding documents, and contract administration for multiple projects to address repairs to West Virginia Capitol Complex campus hardscape, per the bid requirements, specifications and terms and conditions as attached hereto.

\* Online submissions of Expressions of Interest are Prohibited\*

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION 112 CALIFORNIA AVENUE, 5TH FLOOR CHARLESTON WV25305 US	DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION BLDG 1 1900 KANAWHA BLVD E CHARLESTON WV 25305 US

Line	Comm Ln Desc	Qty	Unit Issue
1	A/E Services for WV Capitol Complex Hardscape Repairs Projec	0.00000	

Comm Code	Manufacturer	Specification	Model #
81101508			

**Extended Description :**

A/E Services for WV Capitol Complex Hardscape Repairs Project

## **SOLICITATION NUMBER: GSD2000000002**

### **Addendum Number: 1**

The purpose of this addendum is to modify the solicitation identified as GSD2000000002 ("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:**

- 1. To move the Bid Opening date from 09/06/2019 to 09/13/2019. The Bid Opening time remains 1:30 P.M.**

**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.**



The Bid Opening Date is being moved from  
09/06/2019 to 09/13/2019.

The Bid Opening Time remains 1:30 P.M.

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: GSD2000000002**

**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:**

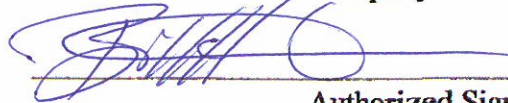
(Check the box next to each addendum received)

- |  |  |
|--|--|
| <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 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

\_\_\_\_\_  
09/09/2019

\_\_\_\_\_  
Date

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



**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.

Bill Hunt, President

(Name, Title)

Bill Hunt, President

(Printed Name and Title)

409 Jacobson Drive, Poca, WV 25159

(Address)

304-755-8291 / 304-755-2636

(Phone Number) / (Fax Number)

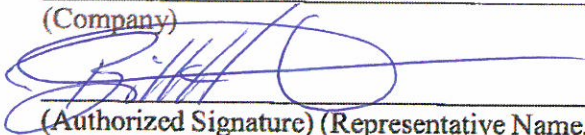
bill.hunt@terradon.com

(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.

TERRADON Corporation

(Company)



(Authorized Signature) (Representative Name, Title)

Bill Hunt, President

(Printed Name and Title of Authorized Representative)

09/09/2019

(Date)

304-755-8291 / 304-755-2636

(Phone Number) (Fax Number)



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: TERRADON Corporation

Authorized Signature: [Signature] Date: 9-11-17

State of West Virginia

County of Pitman, to-wit:

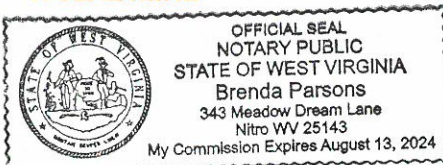
Taken, subscribed, and sworn to before me this 11<sup>th</sup> day of September, 2019.

My Commission expires August 13, 2024

**AFFIX SEAL HERE**

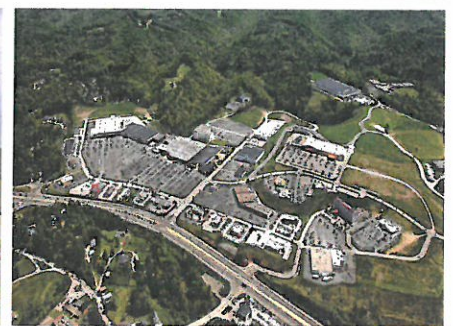
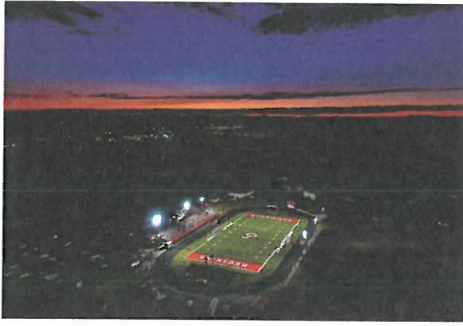
**NOTARY PUBLIC**

[Signature: Brenda Parsons]



*Purchasing Affidavit (Revised 01/19/2018)*





TERRADON's Land Planning and Development department offers creative and innovative site design plans that have been brought to life throughout the region. Land Planning and Development engineers, landscape architects and CAD designers work closely with other TERRADON departments to deliver the most efficient design for each project.

TERRADON's Land Development department works with public and private entities and has remained a strong presence in the commercial, educational and, parks and recreational development sectors.

The Land Planning and Development group is focused on retaining lasting relationships with it's customers and prides itself on repeat clientele and referrals.

The Land Planning and Development department provides all services in-house from schematic design through construction drawings.

TERRADON maintains LEED accredited professionals in the Land Planning and Development department who remain on the forefront of sustainable design initiatives that aid clients in reducing significant energy costs on projects. TERRADON's Land Development department has more than 25 years experience working on industrial, commercial, parks and recreational, and other projects.

TERRADON has performed engineering and landscape design services for various monuments and plazas throughout the state. TERRADON has ample experience incorporating thematic design elements to achieve honorable memorial and monument plaza sites.

TERRADON has also worked on various renovation and addition projects ranging in sizes from small commercial gas stations, to large industrial sites. TERRADON has specialty staff that have worked on building renovation and additions comparable in size to the proposed project.



*TERRADON maintains LEED  
accredited  
professionals on staff.*

### Services

- Site Civil Engineering
- Master Planning
- Site Feasibility Studies
- Schematic Design
- Layout Plans
- Grading Plans
- Utilities Design
- Preliminary Designs
- Storm Water Management Plans
- Erosion Control
- Presentation Drawings
- Renderings
- Graphic Design
- Construction Observation
- Bidding
- Construction Review
- Building Renovations & Additions Design
- Cost Estimating
- Project Management
- Site Assessments





TERRADON's Roadway and Bridge Design group is one of the most respected in the region. The department is well-known for its structural design capabilities and expert knowledge in bridge erection planning. Whether the job requires project planning, preliminary engineering studies or detailed roadway design, TERRADON maintains the resources needed to successfully complete transportation projects. Success on each project is achieved by using advanced technology to produce innovative, pragmatic design. TERRADON engineers are among leading professionals experienced in an array of transportation and quality & assurance measuring services.

TERRADON's certified staff is trained to work under unique and changing task orders and to maintain quality work to clientele that creates a maintained respected relationship between TERRADON and it's client.

TERRADON provides a diverse staff of professionals capable of providing project planning and preliminary engineering services, as well as final roadway and bridge designs (plans, specifications, and estimates). The firm's transportation engineers and technicians apply the latest technology to innovative, award-winning projects. TERRADON's transportation staff has a wide range of experience that includes preparing maintenance of traffic plans, signing and pavement marking plans, utility coordination, drainage design, and right-of-way plans.

TERRADON's Transportation sector has enjoyed a long-standing relationship with several states' Departments of Transportation including the WVDOT. TERRADON has performed successful engineering design for the agency for more than 20 years. The group is led by an experienced transportation engineer and includes veteran staff with demonstrated experience.

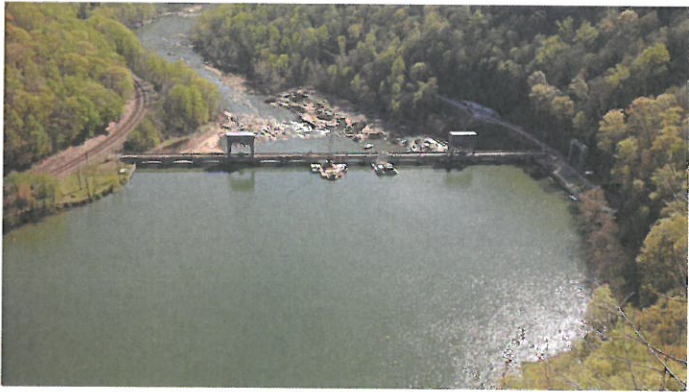
TERRADON routinely works on transportation projects, including survey, right-of-way, utilities, and specification design and review with WVDOT personnel. Additionally, TERRADON has been recognized for outstanding engineering work on several occasions with engineering excellence nominations and awards.

### Services

- Structural Engineering
- Bridge Design
- Roadway Planning & Review
- Structural Planning & Review
- Roadway Design
- Maintenance of Traffic
- Traffic Analysis
- Right of Way Plans
- Grading Studies
- Survey
- Materials Testing
- Construction Inspection
- Materials Certification







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

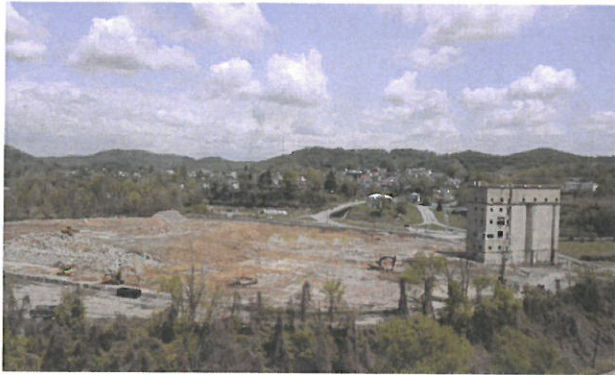
- Test Borings
- Test Pit Excavations
- Monitoring Well and Piezometer Installation
- Soil and Rock Logging, Sampling & Testing
- Landslide Analysis and Remedial Design
- Stability Analysis
- Retaining Structure Design
- Earthen Dams
- Foundation Design
- Municipal and Industrial Landfills
- Flexible and Rigid Pavement Design
- Complete Removal for Landslide Repair
- Buttressing and Regrading
- Subsurface Drainage
- Structural Corrections
- Retaining Walls
- MSE Walls and Other Gravity Walls
- H-Piles and Lagging
- Anchors (Rock or Soil Nailing)
- Geotechnical Design

TERRADON Corporation has provided design, analysis, and construction inspection on more than 300 slip repair projects across the Appalachian Region. TERRADON is well versed in providing test boring services to slip projects and also provides other methods of slip analysis and design.

TERRADON is qualified to provide Ground Penetrating Radar (GPR) and Resistivity testing to evaluate landslides and ascertain information such as: potential failure surface, mapping bedrock, locating subsurface voids, determining the amount of displacement, subsurface anomalies, locating groundwater, and determining stratigraphy layering.

TERRADON personnel are also experienced in various hand sampling techniques such as hand auguring, dynamic and static cone penetrometer tests, and hand dug test holes. These sampling and testing techniques are beneficial for determining subsurface stratigraphy, locating groundwater, collecting soil samples for laboratory analysis, locating failure surface, and determining the landslides boundary.





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.

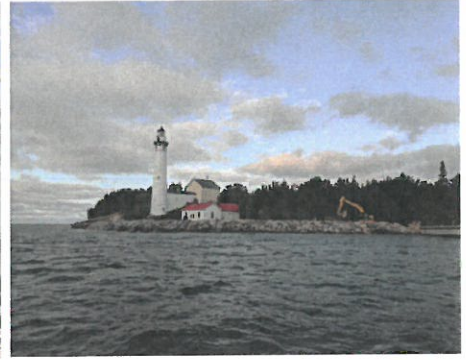
TERRADON closely follows environmental activities on the local, state and federal levels. TERRADON has a thorough understanding of state and federal environmental permitting processes and regulations. This expertise applies to both the initial permit preparations, as well as subsequent negotiations affecting 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

- Environmental Inspections
- Phase I ESA
- Phase II ESA
- Phase III ESA
- Hazardous Waste Management
- Wastewater Management
- Storm Water Planning
- 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
- Above Ground Storage Tanks
- Impoundment Stabilization & Closure
- SPCC Planning
- BMP Planning

TERRADON's experienced environmental staff routinely performs Environmental Site Inspections during construction, as well as post rainfall events to ensure compliance with current WVDPE construction stormwater NPDES Permits. TERRADON provides Waters of the US determinations, wetland delineations, Nationwide Permits as well as Individual 404/401 Permits with the Army Corps of Engineers and West Virginia Department of Environmental Protection (WVDEP). TERRADON has performed hundreds of wetland delineations using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Corps, 2012).





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.

Additionally, TERRADON provides Construction Management services including construction oversight, documentation, and safety procedure implementation. TERRADON has more than 35 qualified and certified construction inspectors and more than 5 qualified construction management representatives. TERRADON's team also includes environmental field inspectors, geotechnical inspectors, and geological field inspectors.

TERRADON Corporation Construction Testing and Inspection Department maintains a full service laboratory testing facility on site at the Poca, WV office. The laboratory is staffed by qualified and certified construction inspection technicians.

### Services

- 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
- Agency Compliance
- Floor Flatness Testing
- Fireproofing
- Masonry Testing
- Structural Steel Inspection Certified
- Welding Inspection
- Dye Penetrant Testing
- Bolt Testing
- Project Safety Monitoring
- FAA Eastern Regional Laboratories
- Steel Institute AST Inspections





TERRADON has been a leader in West Virginia and the surrounding region for the land surveying industry since 1989. The team has developed an extensive resume of successful surveying and mapping projects performed for a diverse group of repeat private and public sector clients. TERRADON's experienced staff of licensed professional surveyors and mappers bring expertise and proficiency to every project task.

The company is committed to staying ahead of the industry's pace by investing in state-of-the-art equipment and technology. That commitment enables TERRADON to overcome unique and challenging project conditions or obstacles, and efficiently provide the most accurate and complete information available to clients.

TERRADON has a long history of providing design and construction survey services for numerous transportation projects. 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 full-time Professional Surveyors on staff. The firm services projects through the use of in-house field survey crews who are backed by corporate staff members, including an experienced team of CAD designers. TERRADON's transportation survey group is experienced in

### Services

- Mapping
- Construction Layout
- ALTA survey
- Topographic Survey
- GPS Network Control Surveys
- Aerial Mapping
- LiDAR Mapping
- Ground Penetrating Radar
- 3D Mapping



# 2

## Similar Experience

Similar Project Experience | 9





### **Babcock State Park—Sewell Trail, Fayetteville, WV**

TERRADON provided survey and mapping for 4.5 miles of abandoned roadbed for an existing trail design in Babcock State Park. The project included conceptual design of the entire length. Additionally, the trail has several minor landslides and one major trail closure due to a landslide. TERRADON provided slip repair design services. TERRADON also provided the design of a pedestrian bridge along the trail.

### **New River Recreation Trail, Fayetteville, WV**

TERRADON provided design for a new trail through rural and urban areas in Fayetteville, WV. As part of a 'Share the Road' initiative, TERRADON designed approximately 3 miles of new 10' wide trail through woods and school property. The project included the design of two structures; one 40' structure over Town Creek, and one 25' structure over a tributary of Town Creek. TERRADON staff surveyed and mapped all of the new trail and stream crossings and provided an archeological study of the trail area.

### **Richwood Sidewalks, Richwood, WV**

TERRADON provided engineering services to the Town of Richwood, WV in the wake of major flooding. The project entailed a section on the north side of East Main Street from Dietz-Spence Store to Park Place. In total, the project involved approximately 1500 linear feet of study area. TERRADON provided surveying and mapping for the entire length of the project and designed preliminary layouts for retaining walls. The project also included a feasibility study for midblock crossings and the coordination of public meetings.

### **The Summit Bechtel Family National Scout Reserve, Fayette County, WV**

The Summit is a 10,600+ acre outdoor adventure center owned by the Boy Scouts of America. TERRADON performed site selection and due diligence reporting. Additionally, the firm provided geotechnical investigations, design, survey, planning, and infrastructure design and inspection. Working under tight specifications and time restrictions, TERRADON spearheaded the delivery of the world class facility. TERRADON designed 64 miles of underground utilities at the Summit. The design plans implemented a water distribution system that included 18 miles of piping and two precast concrete water tanks with Solar Blue mixers to help with water stratification. The water systems on site service 130 bath houses and restrooms on the site. TERRADON designed wastewater services on site utilizing Orenco tanks. The wastewater system was used due to the sites remote location making it more feasible than conventional gravity sewer lines. The project was comprised of almost 93,000 feet of sewer pipe, 125 large Orenco septic tanks, and 23 septic tank effluent pumping stations to convey the wastewater to an on-site sewage treatment facility. The sewer system collects wastewater through a variable grade sewer system, while the septic tanks provide primary treatment of the waste water. An environmentally friendly greywater system was used on all services of the site.

### **Historic Nuttallburg Site, Fayette County, WV**

The Nuttallburg Mining Complex and Town Site is the most intact example of an early 20th century coal mining complex in the New River Gorge and West Virginia, and one of the most complete coal related industrial sites in the United States. The National Park Service (NPS) proposes to develop a new visitor use area that will encompass land within and adjoining the Nuttallburg Mining Complex and Town Historic District. This project is the third phase of work by the National Parks Service to clean up and stabilize the historic Nuttallburg coal tippie, loadout and surrounding historic community. Visitor access, parking areas, trails and interpretive signage will be included in Part B of this phase. Services include construction drawing and specification reviews, developing project cost estimates, coordinating and negotiating with Contractor, ensuring compliance with the construction drawings and specifications keeping daily reports, coordination with the design engineer, contractor and National Park Service and verifying quantities and pay estimates. Total construction cost of this phase is over \$5 Million.



### **Sleeping Bear Dunes National Park, Empire, MI**

TERRADON served as the Construction Management Representative (CMR) for two American with Disability Act (ADA) upgrade projects at Sleeping Bear Dunes National Park in Empire, Michigan. Working through the National Parks Service, TERRADON placed a full-time onsite CMR at the park in 2018. The project included daily coordination between the contractor and owner, where the CMR performed quality control/quality assurance tasks and documented and reported deficiencies. The project included the modification of park piers, sidewalks, and parking lots to meet ADA standards.

TERRADON's CMR provided day to day contract observation on behalf of the owner, the National Parks Service and the Denver Service Center. The CMR recommended acceptance or rejection of work to the owner and coordinated responses to requests for information (RFI). Additionally, TERRADON reviewed and coordinated all submittal responses, prepared draft request for proposals, recommended pay request approvals/denials, and conducted weekly construction meetings and minutes.

The CMR assisted with the coordination of project close-out (punch lists, substantial completion, occupancy, etc), ensured safe construction practices, and prepared additional paperwork and documentation as needed including daily reports and independent owner estimates.

### **Ravenswood Downtown Revitalization, Ravenswood, WV**

TERRADON Corporation completed construction administration and material testing services for the 2010 downtown revitalization project for the Ravenswood Development Authority. TERRADON was responsible for the project construction bidding documents and process, construction administration, inspection and materials testing for the sidewalk rebuilding, lighting, and ADA improvement project. The project design was completed by another consultant, and TERRADON took over the project to complete the services in a timely and on budget schedule. TERRADON helped secure additional funding from the WVDOT-DOH after project bids came in over estimate.

### **White Oak Trail Lighting, White Oak, WV**

TERRADON provided survey and mapping of the existing White Oak Rail Trail from Fayco Avenue to Jones Avenue. Additionally, the firm identified and designed the placement of period lighting with additional electrical outlets, conduits and junction boxes along the 1.1 mile trail.

### **South Manitou Island National Park, MI**

TERRADON served as the Construction Management Representative (CMR) for American Disability Act (ADA) upgrade projects at South Manitou Island, near Traverse City, Michigan. Working through the National Parks Service, TERRADON placed a full-time onsite CMR at the park in 2018. The project included daily coordination between the contractor and owner, where the CMR performed quality control/quality assurance tasks and documented and reported deficiencies. The project included the bank stabilization around the islands lighthouse, sidewalk and walkway ADA improvements, pier modifications, and site renovations. TERRADON's CMR provided day to day contract observation on behalf of the owner, the National Parks Service. The CMR recommended acceptance or rejection of work to the owner and coordinated responses to requests for information (RFI). Additionally, TERRADON reviewed and coordinated all submittal responses, prepared draft request for proposals, recommended pay request approvals/denials, and conducted weekly construction meetings and minutes. The CMR assisted with the coordination of project close-out (punch lists, substantial completion, occupancy, etc), ensured safe construction practices, and prepared additional paperwork and documentation as needed including daily reports and independent owner estimates.



### **Smithers Sidewalks Improvements, Smithers, WV**

The sidewalks along Michigan Avenue were deteriorating and becoming a hazard for the pedestrians in the area. This area is part of the central business district of Smithers. With the assistance of a Transportation Grant administered by the WV Division of Highways the City was able to remove and replace the deficient sidewalks. Street lighting was also added as a part of this project. Approximately 1000 square yards of concrete sidewalk were removed and replaced as a part of this project. Pedestrian crossings at intersections were designed to be ADA compliant with truncated dome delineators. Services provided included condition surveys, design development, coordination with WVDOH staff during design phase, preparation of contract bid documents, participation in the bidding and award processes, construction phase services including oversight and administration of inspection, processing of WVDOH compliance/reporting documentation, and project closeout. The project design was approved by the WVDOH but construction has been postponed indefinitely due to budget constraints

### **Montgomery Sidewalks Improvements, Montgomery, WV**

This project consisted of the removal and replacement of deteriorated sidewalks and curbs throughout the City of Montgomery. Financed largely by a grant from the West Virginia Division of Highways, this project replaced approximately 2000 square yards of concrete sidewalk and upgraded to current ADA specifications. Services provided included condition surveys and prioritization of sidewalks requiring replacement, design development, preparation of contract bid documents, participation in the bidding and award processes, construction phase services including oversight and administration of inspection, processing of WVDOH compliance/reporting documentation, and project closeout. The typical section extended from the face of existing buildings or property lines to the curb. The sidewalk design incorporated a curb section. Pedestrian crossings at intersections were designed to be ADA compliant with truncated dome delineators. Details were provided for curb cuts, protection of existing parking meters and sign posts, street tree planters, and storm drain inlet repairs. The project was constructed during the summer of 2005.

### **Montgomery AMTRAK Multi-Modal Station, Montgomery, WV**

This station, which was funded largely from a grant from Amtrak, allows passengers for either Amtrak or the local Buses to have a comfortable place to wait. The station has bench seating, lighting and is ADA compliant. Thornton served as Project Manager for this project and oversaw discussions with Amtrak and the City, provided design services, bidding and construction administration.

### **Midland Trail River Access, Montgomery, WV**

This project consisted of the renovation of the deteriorated parking area at the Midland Trail River Access in the City of Montgomery, WV. Financed largely by a grant from the West Virginia Division of Highways, this project replaced approximately 1000 square yards of gravel parking area with asphalt pavement. Services provided included survey, design development, preparation of contract bid documents, participation in the bidding and award processes, construction phase services including oversight and administration, processing of WVDOH compliance/reporting documentation, and project closeout. The project included sub grade preparation, placement of aggregate base course, asphalt base course, asphalt wearing course, and drainage improvements. City personnel striped the area after the paving was completed.

### **Wolf Creek Park Trail System, Fayette, Nicholas & Raleigh Counties, WV**

The Wolf Creek Trail System is a community led effort to develop a trail system within Wolf Creek Park. This system has been designed, laid out and partially constructed with volunteer efforts led by the New River Gorge Trail Alliance. When complete, the Wolf Creek Park Trail System will feature trails tailored to beginner through expert mountain bikers and loops that provide incredible hikes and trail runs through an actively restored forest. The Wolf Creek Park Trail System will have direct community connections to Fayetteville, Oak /hill, Summersville, and Beckley, WV.



### **Fairmont State University Inner Campus Master Plan, Fairmont, WV**

TERRADON Corporation, as a subconsultant, provided site master planning and site civil engineering services for the Fairmont State University Campus Core Master Plan and Inner Campus Design.

The project included the creation of an enhanced inner campus feel, providing student gathering areas and the promotion of a more intimate collegiate setting. TERRADON's design incorporated a state-of-the-art campus fountain that provides a gentle waterfall behind a seating bench while in use. The fountain is low maintenance, allowing the University to simply turn it off during cold weather. The fountain design provides a nice visual each while in use and turned off as the water feature is hidden behind the seating wall.

For the project, TERRADON provided all hardscape and landscape planning, as well as performed all survey using in-house personnel and tools. Additionally, TERRADON has provided land development services for FSU Campus Signage and the Engineering Technology Building

### **West Virginia Wesleyan Plaza, Buckhannon, WV**

Wesley Chapel has long been introduced to visitors by a 900 foot-long parking loop and limited greenspace. The College commissioned TERRADON Corporation to provide site civil engineering design and landscape architecture services to the student quad in 2010. TERRADON turned what was previously a loop roadway that circled a large grass lawn into a pedestrian corridor around the open greenspace. TERRADON staff designed a new paver trimmed concrete pedestrian walkway, renovated greenspace, a visitor drop loop and a plaza/water feature to enhance campus quality. The design immediately impacted the central quad, providing an inviting space for students and visitors to utilize the park-like setting.

Trimmed with mature trees, the existing parking loop was left in place while a 20 foot-wide paver-lined concrete pedestrian walkway was constructed to bring the area up to level grade. This design feature saved on demolition costs and provided a solid base for construction. TERRADON designers anchored the west end of the quad with a plaza/water feature. The low-maintenance design provides a visually pleasing highlight opposite Wesley Chapel.

At the head of this pedestrian loop and green quad, TERRADON designed a pedestrian plaza. The plaza is a mixture of concrete and brick substance. TERRADON designed a series of flush fountain nozzles into the ground, in the center of the plaza, so that in the warm weather, the center plaza acts as a water fountain. This amenity gives the plaza dual usage and is a focal point for the plaza and the green lawn surrounding it.

### **Marshall University Memorial, Huntington, WV**

TERRADON performed conceptual and design build drawings for the enhancement project for the existing Marshall University Football Team Memorial at the Spring Hill Cemetery in Huntington, WV.

Utilizing the existing hardscape at the memorial plaza, the proposed design expanded the plaza with green colored granite tile, along with an outline of black granite to add a dramatic thematic design matching to schools colors. The expansion of the plaza was created in a circular shape to allow for easy gatherings and viewings for large parties.

The existing overgrown landscaping was proposed to be removed and replaced with fresh vibrant plantings for year-round interest. Accent lighting was to be added for viewing at night.



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The existing overgrown landscaping was proposed to be removed and replaced with fresh vibrant plantings for year-round interest. Accent lighting was to be added for viewing at night.

### **Putnam County Plaza, Putnam County, WV**

TERRADON's objective for this project was to rejuvenate an old dilapidated parking lot and create a more pedestrian friendly space.



Parking lot repairs included drainage improvements, pot-hole repairs, and paving overlay to create a crisp, new parking lot. TERRADON designed pedestrian enhancements that include new landscaped curbed islands with shady trees. The design also includes a new pedestrian colored concrete crosswalk with connecting concrete sidewalks that allow for safe and user friendly access into the existing courthouse building.

### **Hedgesville High School Plaza, Hedgesville, WV**

TERRADON provided site design and construction drawings for the incorporation of a new gymnasium addition to the existing high school building. Additionally, TERRADON created a three sided plaza for a new entry into the school.

The new entry plaza is centrally located to the school and uses varying hardscape materials consisting of broom finished concrete, flat finished concrete banding, and brick pavers. The plaza prominently displays the high schools letters and includes pedestrian seating along colorful landscaped borders.

### **Capitol Market Expansion, Charleston, WV**

TERRADON Corporation provided site civil engineering services for the Charleston Urban Renewal Authority for an expansion to the popular Capitol Market facility. Services for the indoor/outdoor facility included land planning and design engineering, utility location and mapping services. The master planning project provided vision for indoor and outdoor retail space for fresh produce, gourmet food products, artisan boutiques, upscale restaurants, craft and culinary demonstrations, access roads and parking.

### **Marshall University Recreational Wellness Center, Huntington, WV**

TERRADON Corporation provided land development services for the Marshall University Wellness Center project located at 5th Avenue and 20th Street on the Huntington, WV campus. The facilities and grounds of this area have become a focal point for the University based on their location of the high traffic intersection, as well as their proximity to the University Football Stadium.

For the wellness center project, TERRADON provided site survey, hardscaping, layout and design, landscape planning and design, site visits during construction and field reporting. Additionally, TERRADON provided land development services on the Parking Garage and Community and Technical College for Marshall, as well as additional ADA compliancy designs on other campus facilities.

### **Marshall University Residence Halls & Corridors, Huntington, WV**

TERRADON Corporation provided land development services for the newest Marshall University Housing project located along 5th Avenue on the Huntington, WV campus. The facilities and grounds of this area have become a focal point for the University based on their location of the high-traffic intersection of 5th Avenue and 20th Street, as well as their proximity to the University Football Stadium.

TERRADON's designs incorporated ADA compliant walk ways through campus corridors connecting housing, the wellness center, and recreation field to the rest of existing campus. For the residence hall project, TERRADON provided site survey, hardscaping, layout and design, landscape planning and design, site visits during construction and field reporting. Additionally, TERRADON provided land development services on the Parking Garage and Community and Technical College for Marshall, as well as additional ADA compliancy designs on other campus facilities.



# 3

## Proposed Management Plan

Project Approach & Management Plan | 16

## Key Staff Organizational Chart



### Project Owner / Management



Will Thornton, PE, PS  
*Project Manager*

#### **Civil Engineering & Planning**

*Will Thornton, PE, PS*

*Dakota Smith, EIT*

*Andrew Wagner, EIT*

*Ben Prior, PE*

*Joe Saunders, PE*

#### **Surveying & Mapping**

*Robert Thaw, PS*

*Dave Brown PS*

*Brian Bakanas, PS*

*Robert Fuller, PS*

#### **Geotechnical Engineering**

*Joe Carte, PE*

*John James, PE*

*Chris Hancock*

*Brittany Beckwith*

#### **Land Planning & Development**

*Greg Fox, ASLA, LEED AP*

*Shawn Gray, ASLA*

*Pete Williams, ASALA*

*Kristen McClung, PE, MBA*

*Phil Reed, PE*

#### **Environmental Consulting & Engineering**

*Jason Asbury, ASLA, CESSWI*

*Bill Hunt, PG, LRS*

*Andrew Robinson, PG, LRS*

*Nick Kevey*

*Mike Pickens*

*Morgan Jackson*

#### **Construction Inspection & Management**

*Matt Glaspey*

*Regina Francis*

*Greg Harvey*



TERRADON plans to utilize walkway surveys completed by the Agency in 2013, in conjunction with the assessment report developed by Chapman Technical Group. TERRADON will develop bidding documents and perform construction administration for a competitively bid construction project to make "spot" repairs across the Capitol Complex, identifying and addressing specific tripping hazards or hardscape failures. TERRADON will prioritize "spot" repairs and address each repair in phased projects to prioritize hierarchy of repairs as needed after assessment.

TERRADON has completed numerous site-civil design and remediation projects that include the assessment reports of existing assessments, the development of construction bid documents and performance of construction administration for projects that utilize concrete and pavers to minimize hazards and improve drainage. TERRADON has completed similar projects with these services provided for various sidewalk repairs projects including Ravenswood Sidewalks and Smithers Sidewalks as highlighted in this proposal.

TERRADON plans to utilize walkway surveys and existing assessment reports to provide bidding documents and construction administration for a secondary, separate competitively bid construction project to address hardscape repairs to the area directly east of the Culture Center (Building 9) to the west face of the West Wing of the Main Capitol Building 1; the Main Capitol pedestrian thoroughfare from the Culture Center parking area to California Avenue; the North Plaza of the Main Capitol and monumental north steps to the Capitol including repairs to the main fountain, the entry hardscapes to the Capitol East and West Wings, the hardscapes to the north ground floor secondary entrances to the Main Capitol and the associated handicapped access ramps; and the public entrance at the east side of the East Wing, including the handicapped access ramp.

TERRADON's design will take into consideration the structural integrity of the pavement systems and will include subsurface investigations including soil borings and the use of ground penetrating radar if needed. The design will also consider the impact of vehicular traffic on the pavement system, storm drainage design solutions including extensive boundary and topographical surveys of existing elevations, mitigation of tripping hazards, and respect for the historical aesthetic of the existing hardscapes.

TERRADON has provided these services on dozens of projects throughout its respected 30 years as a lead engineering firm. TERRADON has provided design solutions to notable corridors and breezeways that have similar features such as fountains, including the Marshall University memorial breezeway, the Fairmont State University inner corridor and fountain, and others included in this proposal.



# A

## Key Staff Resumes

Appendix A: Key Staff Resumes



Thornton is an experienced project manager and design engineer for civil engineering design projects. Thornton has more than 15 years of experience with consulting engineering in West Virginia, and three years with a construction firm performing major concrete paving projects in West Virginia, Pennsylvania and Ohio. Thornton also provided consultant review for the WVDOT, Division of Highways.

The major design projects with which he has been involved included roadway design, drainage design, site design, mine land reclamation, permitting, property surveys, airport design, Right-of-Way Services, maintenance of traffic and construction administration and oversight. He provides analysis and design on the construction and rehabilitation of a variety of infrastructure utilities (water, wastewater and storm water), including streets, drainage, sidewalks, buildings, and traffic and other safety improvements.

### **Project Experience**

#### **Schoenbaum Tennis Courts Asphalt and Drainage Rehabilitation, City of Charleston Parks and Recreation, Charleston, WV**

Management of design and renovation of an 8 court tennis complex located in the Kanawha City area of Charleston, WV. Subsurface drainage problems were solved by the installation of an open graded drainage layer under the courts. The entire court area was repaved with a construction cost of \$500,000.

#### **Verizon Clemtown Slide Remediation, Taylor County, WV**

Management of the remediation of a slide blocking access and threatening nearby property of a Verizon cell tower site in Taylor County, WV.

#### **WVA Manufacturing Raw Material Retaining Wall**

Management during the design of a new retaining wall at the Raw Material Railroad loadout at the WVA Manufacturing Alloy, WV site. The proposed wall will be approximately 450 linear feet and range from 3 to 10 feet tall.

#### **Grayson Lake Boundary Survey, US Army Corps of Engineers, Grayson Lake, KY**

Management of the inspection of 151 miles of fee boundary line along the Grayson Lake project.

#### **Ravenswood Downtown Revitalization 2010, Ravenswood Development Authority, Ravenswood, WV**

Management of the bidding, construction administration, inspection and material testing for the sidewalk rebuilding, lighting and ADA improvement project. Took over project after design was completed by another consultant. When the project bids came in over original estimate, we helped secure additional funding from WVDOH.

#### **Golden Corral Pipe Collapse Repair, Cross Lanes, WV**

Management of the professional services related to surveying, design, and analysis for the existing pipe collapse issue at the Golden Corral restaurant on Goff Mountain Road in Cross Lanes, WV.

#### **Hammer Strait Bridge, Pendleton County, WV**

Management of bridge replacement over Trout Run in Pendleton County, WV.

### **Education**

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

### **Certifications**

WDOH Portland  
Cement  
Concrete  
Technician

WVDOT Asphalt  
Pavement  
Technician

### **Registration**

Professional  
Engineer: WV,  
OH, VA

Professional  
Surveyor: WV

### **Total Years Experience**

30



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**District 2 Slides, Statewide, WV**

Project Manager for the development of construction plans for 10 separate slide projects caused by April 2015 flooding events.

**Waterloo Bridge, Mason County, WV**

Management of bridge replacement and related design tasks for replacement of a bridge over Thirteen Mile Creek in Mason County, WV.

**I-77 North Camden Interchange to Staunton Avenue Interchange, Wood County, WV**

Design included replacement and widening of interstate bridge over the Little Kanawha River and the replacement and widening of the bridge over Staunton Avenue. The roadway work includes widening of I-77 to eight lanes from Camden Avenue to Staunton Avenue.

**Corridor H Section 7—Forman to Moorefield, Grant County, WV**

Design and management included five miles of new mainline four-lane highway, several side road connectors, truck brake check area, truck escape ramp, and a wetland overlook area including more than 8 Million cubic yards of earthwork.

**I-79 Bridgeport to Meadowbrook, Harrison County, WV**

Included the widening of I-79 from two lanes North Bound and South Bound to four lanes North Bound and South Bound from Bridgeport to Meadowbrook Road including two sets of bridges.

**Corridor H Davis to Bismark, Section 01, Tucker County, WV**

Included design and management for upgrade of approximately two miles of WV 93 between Davis and Bismarck to a four-lane highway.

**ODOT-Ashtabula Grade Separation, OH**

Design and management of a grade separation over two sets of railroad tracks with related approaches and utility relocation.

**U.S. 52 Kermit Bypass, Mingo County, WV**

Included design and management of four miles of a new alignment four-lane expansion of U.S. 52 near Kermit, West Virginia. Design included more than 10 Million cubic yards of earthwork, two interchanges and a stream relocation.

**U.S. 19 Corridor L Upgrade near Muddelty, Nicholas County, WV**

Design and management of approximately four miles of the expansion of U.S. 19 from 2 lanes to 4 lanes in Nicholas County. This fast track project was completed in nine months.

**Meadowbrook Road (U.S. 19 End), Harrison County, WV**

Design and management of new alignment of two miles of Meadowbrook Road in Harrison County. This four lane divided highway included a bridge over the West Fork River and an intersection with U.S. 19.

**Mon-Fayette Expressway, Monongalia County, WV**

New four lane section of the Mon-Fayette expressway in Monongalia County.

**WVDOH Master (On-Call) Engineering Services, WV**

Managed various highway, bridge, and related engineering services at locations throughout the state including: Lavalette to Huntington Road Widening, Spencer Center Turn Lane, Church Street in Ripley Center Turn Lane, WV 14, WV 15 Intersection Upgrade.

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Bridge and Roadway projects for which Thornton provided Project Management and QA/QC while at WV DOH Engineering Division, Consultant Review Section, are listed below. Typical services included project scheduling and tracking, plan review for adherence to AASHTO and DOH standards and ensuring the project stays within scope.

**Ohio River Bridge, Weirton, WV**

Design study for a new Ohio River crossing near Weirton WV. Project included alignment studies, preparation of an Environmental Assessment document and coordination with stakeholders including local governments, public, US Corps of Engineers, FHWA offices in Ohio and WV, Ohio DOT

**I-79 Morgantown Interchange, Morgantown, WV**

Design study for a new Interchange on I-79 in Morgantown. This fast track project included the preparation of an Environmental Assessment as well as developing alignments for a new interchange on I-79.

**Mineral Wells to Pettyville, Pettyville, WV**

Design Study and Environmental Assessment for the extension of four lane roadway from Mineral Wells to Pettyville. Typical services included project scheduling and tracking, attending public meetings, plan review for adherence to AASHTO and DOH standards and ensuring the project stays within scope.

**Nutter Farm Bridge Road**

Construction plans for new roadway and intersection with US 50 to allow the removal of the existing Nutter Farm bridge.

**Blandville Bridge**

Construction plans for the replacement of existing bridge and approach roadway.

**Camp Creek Bridge, Clay County, WV**

Design Study to replace the existing bridge in Clay County.

**Burlington Mill Creek Bridge**

Design study to select preferred option to replace the existing bridge.

**US 220 Passing Lane**

Construction plans for the addition of a passing lane on US 220. Typical services included project scheduling and tracking, plan review for adherence to AASHTO and DOH standards and ensuring the project stays within scope.

**Bartley Branch Bridge**

Construction plans for the extension of new roadway alignment to allow the removal of a structure.

**Hartland Bridge**

Construction plans for the replacement of existing bridge over the Elk River and approach roadway.

**Fourth Street Bridge, Fairmont, WV**

Design Study and Construction plans to replace the existing Fourth Street bridge with a new structure and roadway at Third Street in Fairmont. This project included coordination with City of Fairmont officials as well as the local public.

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**Jefferson Avenue Bridge, Point Pleasant, WV**

Construction plans for the replacement of existing bridge in Point Pleasant.

**Jefferson Avenue Extension Bridge, Moundsville, WV**

Construction plans for the replacement of existing bridge in Moundsville.

**Monument Place Bridge**

Design Study for the rehabilitation of the oldest stone arch bridge in WV.

**Pleasantview Bridge**

Construction plans for the replacement of existing bridge.

**Swago Bridge, Pocahontas County, WV**

Construction plans for the replacement of existing bridge in Pocahontas County.

**VA Hospital Bridge, Clarksburg, WV**

Construction plans for the replacement of existing bridge in Clarksburg.

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## MATT GLASPEY

Construction Management Representative



Matt Glaspey serves as a Construction Site Manager at TERRADON Corporation. Glaspey is an onsite construction representative who coordinates project critical path items between contractor, designer and owner. He is experienced in conducting, supervising and evaluating construction monitoring, testing and reporting activities including scheduling, oversight, and deficiency reporting.

Glaspey is well-versed in creating and reading engineering drawing, CAD files, and GIS information. He offers nearly more than 15 years of project design and management experience. In prior roles at TERRADON, Glaspey was responsible for developing site plans, grading plans, landscape plans, utility plans, site detailing and specifications. Glaspey has worked on notable projects throughout the Appalachian Region including the Summit Bechtel Reserve National Boy Scouts Camp. Glaspey has designed and provided project oversights for more than 100 projects at TERRADON, including city sidewalks, parks, recreational facilities, educational sites, housing developments and state and federal projects.

### Project Experience

#### **Shawnee Park Multi-Sport Complex, Dunbar WV**

Served as the Construction Management Representative for the project. Project involved site design and specifications for the renovation and additions to Shawnee Park in Dunbar, West Virginia. The park design plans include ADA compliant parking, walking trails, bicycle paths, and upgraded curbing and sidewalks. The project includes removing existing golf course to renovate into a multi-sports complex and includes construction of 15 soccer fields, four baseball fields and asphalt parking lots. Glaspey monitored overall construction and worked with the Owner and Contractor throughout the construction process to ensure the project conformed with approved design drawings.

#### **Valley Park Expansion and Sports Field Additions, Hurricane, WV**

Served as the Construction Management Representative for the project. Glaspey was responsible for the design, construction specifications, and construction oversight for the five-acre expansion of Valley Park in Hurricane, WV. The park design included updated ADA compliant walking trails and parking lots, the construction of a 15,000 square foot maintenance barn, shelters, tee ball and soccer fields and a containment pond. Glaspey was responsible to monitor overall construction and worked with the Owner and Contractors throughout the construction process to ensure work conformed with approved design drawings.

#### **H. Bernard Wherle Sr. Scout Leadership Service Center, Kanawha City, WV**

Served as the Integrated Project Delivery Liaison for the project. Glaspey was involved from pre-design through construction of the 13,000 square foot Buckskin Council facility near Charleston, WV. Glaspey served as the primary liaison between the designer, owner and contractor during the \$3.7 million renovation. The project was completed in a fashion where designers provided 30 percent plans and contractors began work while designers stayed ahead of them with engineering design and specification often times being performed in an expedited manner to meet aggressive time schedules. Glaspey ensured construction activities met standard engineering specification and approved engineered drawings on a strict timeline. He provided construction documentation

### Education

Bachelor of  
Science West  
Virginia  
University  
School of  
Design and  
Community  
Management

### Certifications

OSHA 30 HR

Certified  
Construction  
Manager (CCM)

Envision  
Sustainability  
Professional  
(ENV SP)

### Total Years Experience

15



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and project coordination for the fast track project. Oversight included CAD drawings, site layout and design, permitting, utility design, hardscapes and landscape architecture.

**Sleeping Bear National Lakeshore Targeted Accessibility Improvement Program (TAIP) - Loon Lake, Platte River Campground and Philip A. Hart Visitor Center Accessibility Rehabilitation, Empire, MI**

Served as the Construction Management Representative for the project. As CMR, Glaspey was responsible for inspecting, monitoring and documenting the work of the construction contractor for progress, workmanship and conformance with the contract documents and existing codes. Responsibilities included, but were not limited to, conducting meetings, providing daily reports detailing ongoing work and any pertinent issues, and providing technical assistance and support to the COR during construction. Glaspey was responsible for the oversight of all aspects of the project which includes 11 renovated camp sites, exterior improvements for eight comfort stations and one support building, installation of casework inside two support buildings, installation of a kayak launch, and a new fishing pier including 25 helical piles, steel frame supports, and wood decking.

**WV Advanced Technology Centers, Fairmont & South Charleston, WV**

Served as the Construction Management Representative for the project. TERRADON Corporation provided site design and layout for two higher education facilities in West Virginia. Glaspey served as the CMR where he oversaw adherence to approved design plans by the contractor. Each site consisted of an early site package and building package, where Glaspey provided construction assistance throughout. Glaspey was responsible to monitor overall construction and worked to ensure compliance with approved design drawings.

**Toyota Motor Manufacturing, Buffalo, WV**

Served as Construction Manager for multiple construction projects throughout a 1.9 million square foot automotive plant. Responsible for maintaining and updating the Toyota Motor Manufacturing West Virginia (TMMWV) facility master plan and coordinating with local and national Toyota team members for future plant needs. Coordinated with multiple TMMWV group leaders to improve safety by reducing pedestrian and vehicular conflicts and simplifying circulation patterns during various construction activities as well as daily plant activities. Participated in weekly safety planning meetings and assisted in developing a plan to reduce TMMWV's Falls Risk Assessment and Management Plan (FRAMP) score as well as helping to develop an evaluation system for accident prevention.

**Charleston Replacement Housing, Charleston, WV**

Served as the Construction Management Representative for the project. Glaspey provided construction oversight services during a multi-phase housing development on the east side of Charleston, WV. The project included utility and site development including new ADA compliant sidewalks, curbing, and parking. Additionally, Glaspey was responsible for coordination of overall site activities with the project developer, designer and contractor. Glaspey was responsible for construction monitoring while the work was in progress and as-built drawings upon completion of the project.

**Ronald McDonald House, Charleston, WV**

Served as the Construction Management Representative for the project. Provided construction monitoring, oversight and project coordination for the design-build project near CAMC Hospital in Charleston, WV. Coordination between designer, contractor and owner included new ADA compliant sidewalks, curbing and parking, CAD drawings, site layout, design and grading, permitting, utility design, hardscapes and landscape architecture. Glaspey monitored and reported on progress, specification quality control, and deficiencies.

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Andrew Wagner is a Project Designer and Engineer in Training at TERRADON Corporation. Wagner is responsible for design on civil and highway projects. Wagner has a background in mine engineering as well as oil and gas drilling and completions operations management and has served as the drill site manager in the Gulf of Mexico while with another firm. Wagner has experience in highway design and drainage design and has provided relevant services on various projects throughout West Virginia.

### **Project Experience**

#### **Mingo Logan Coal (Blair Slip), Logan, WV**

The project was an emergency slip repair on CR 17. Approximately 1530 feet of roadway was realigned to locate the route on stable bedrock. Wagner served as Lead Designer on the project and consulted on selection of an appropriate and cost-effective long-term solution for stabilization of the length roadway in question. Wagner designed horizontal geometry, vertical geometry and typical section of the realignment, utilized geotechnical drilling reports to design a cut slope for the realigned roadway, performed drainage calculations to design the roadside ditch and drop inlets, and performed modeling and drafting work to produce a plan set for construction.

#### **Twin Branch (Twin Branch Box Culverts), Twin Branch, WV**

The project consisted of the study, design, and preparation of construction contract plans for the replacement of two bridges with two box culverts in Twin Branch near Davy, WV. Wagner served as a Project Designer and assisted with drafting and structural detailing of the box culvert designs, developed steel reinforcing schedules for the box culverts, drafted roadway plans, created a maintenance of traffic plan showing road closures, detours, and required signage, and calculated roadway and bridge quantities.

#### **MacArthur Bridge, Raleigh County, WV**

The project was scoped to rehabilitate the MacArthur Bridge (WV Route 16) over I-77 ramps near Beckley, WV. Wagner performed drafting and digitization of field inspection notes for bridge repair.

#### **Harper Road Bridge Rehab, Beckley WV**

The project was scoped to rehabilitate the Harper Road Bridge (WV Route 3) over I-77 in Beckley, WV. Wagner performed drafting and digitization of field inspection notes for bridge repair.

#### **Mossy Bridge, Mossy WV**

The project consisted of the design and preparation of contract plans and related documents for the replacement of the existing Mossy Interchange Bridge, which carries WV 612 over Paint Creek in Fayette County. Wagner served as a Project Designer and performed a site visit and assisted with collecting field data for hydraulics analysis, assisted with hydraulics analysis and drafting of a bridge hydraulics report, delineated drainage area for Paint Creek for drainage calculations, consulted on roadway and super elevation design for the proposed alignment to satisfy DOH requirements, and developed construction phasing and maintenance of traffic schemes.

### **Education**

B.S. Mining  
Engineering,  
Virginia  
Polytechnic  
Institute & State  
University  
Blacksburg, VA

### **Certifications**

Engineer In  
Training (EIT)

### **Total Years Experience**

7



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**311 Bridge, Greenbrier County, WV**

The project consisted of the design and preparation of contract plans and related documents for the rehabilitation of the existing 311 Bridge, which carries WV 311 over I-64 in Greenbrier County. The rehabilitation consisted of deck replacement, conversion of abutments to semi-integral abutments, repair of cracking and delaminated concrete at abutments and piers, repair of the approach railing, repair of the approach slab, clean and paint superstructure, and the construction of a pier protection system. Wagner served as a Project Designer and calculated & check calculations of roadway quantities, developed steel reinforcing schedule for pier protection system, and designed super elevation transitions and profile corrections on 311.

**Chelyan to Montgomery, Kanahwa County, WV**

The Route 60 Design Study, following WVDOH guidance, divided approximately 12 miles of highway into 3 sections, with each section containing multiple study sites. A total of twelve sites were studied. Improvements studied included a roadway realignment, adding turning lanes, and slope stabilization. For each alternate at each site, roadway geometry, right-of-way impacts, environmental impacts, earthwork volumes, construction cost, etc. were assessed in order to recommend a preferred alternate. Wagner served as Design Team Lead for the design study, coordinating and managing work for all study sites. Wagner developed two alternates for realignment at "Site 1A" near Shrewsbury, WV. This included preliminary design of roadway geometry, cut and fill slopes, construction cost estimation, major drainage requirements, and assessment of right of way impact and utility relocation requirements. Wagner was responsible for a preliminary design and cost estimate for a pile and lagging wall to fix a slip at "Site 1AA" near Shrewsbury, WV.

**I-79 US 50, Clarksburg, WV**

The project is a Phase I PIE Design study for improving the I-79/US 50 Interchange in Clarksburg, WV. The study consists of three alternates for interchange modification: Diverging Diamond, Bypass A, and Bypass B. Wagner produced design study plans for Bypass A involving two interchange bypass bridges and a ramp flyover bridge. This included the development of new roadway geometry, preliminary span arrangements for the three bridges, major drainage requirements, earthwork calculations, construction cost estimates, and an assessment of the alternate's impact and overall feasibility. Wagner also contributed to modeling and drafting of the other two alternates.

**Pipestem Zipline Design, Pipestem, WV**

The project consists of design and construction inspection of a zipline at Pipestem State Park. Wagner participated in pre-construction site meetings to inspect the site and discuss design alternatives and construction planning with the client. Wagner prepared the bid document for zipline construction vendors to bid on the job. Wagner provided LiDAR mapping in the vendor's requested CAD format for zipline layout and modeling, and reviewed the vendor's plans for construction.

**City of Huntington – Fern Street, Huntington, WV**

The project is a retaining wall in Huntington, WV. Wagner used CAD to create an alignment for stationing reference on the existing Fern Street.

**City of Huntington – Kinetic Park Landslide, Huntington, WV**

The project involves an emergency landslide at Kinetic Park in Huntington, WV. The large landslide impacted houses below and threatened to close an unnamed tributary. Wagner performed a drainage area delineation and peak discharge calculation at the site for NPDES permitting purposes.

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Dakota Smith is a project designer for TERRADON Corporation. Smith provides engineering design services on various projects ranging from land slips to deck replacements. Smith has performed various tasks from drafting in Microstation, to preparing calculations for different structural components, to using modeling software to analyze bridge superstructures.

### **Project Experience**

#### **Amherst Coal Pad, Amherst, PA**

Smith served as a staff designer for the design of a coal pad in Amherst, PA. The job included investigation of a site by the river that would require a large excavator to unload large amounts of material from barges. Smith performed the calculations and analysis to determine what (if anything) needed to be added to the foundation to be able to support the large equipment that would be unloading material for an extended period of time.

#### **Bonds Creek Bridge Replacement, Ritchie County, WV**

Smith performed calculations to verify the crane capacity for the crane the contractor was using for their erection scheme. Smith analyzed shop drawings from the manufacturer of the new girders and analyzed moment capacities.

#### **US35, Mason County, WV**

Smith served as a staff designer for the US35 Bridge Replacement. Smith performed calculations for the shore towers that would be temporarily supporting the girders during the time of erection. Smith verified what the wind load on the shore towers would be and that the cables on the towers were large enough to support the loads that would be applied to them.

#### **Mingo Logan Coal (Blair Slip), Logan County, WV**

Smith served as a staff designer for the Mingo Logan Coal (also referred to as the Blair Slip) project in Blair, WV. She performed quantity calculations for various materials on the job including pavement markings, excavation quantities, and guardrail quantities.

#### **Twin Branch Culverts, McDowell County, WV**

Smith served as a staff designer for the Twin Branch Culverts design in Twin Branch, WV. The design included replacing the current culverts with improved, up to date culverts. Smith assisted in the preparation of drawings for the culverts.

#### **Harper Road Bridge, Raleigh County, WV**

Smith served as a staff designer for the Harper Road Bridge Rehabilitation in Beckley, WV. The rehabilitation included changing the abutments to semi-integral, and rehabilitating the existing pier. Smith assisted in the inspection of an abutment on the bridge, and assisted in the preparation of the plan set.

#### **MacArthur Bridge, Raleigh County, WV**

Smith served as a staff designer for the MacArthur Bridge Rehabilitation in Beckley, WV. The rehabilitation included repairs to the substructures, and

### **Education**

B.S. Civil  
Engineering,  
Virginia  
Polytechnic  
Institute & State  
University,  
Blacksburg, VA

### **Certifications**

Engineer in  
Training (EIT)

Level II Erosion  
& Sediment  
Control NCDOT

WVDOT TRET  
Level III

### **Total Years Experience**

3



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changing the abutments to semi-integral. Smith performed a full inspection of the bridge and also assisted in the development of the plan set.

**I-79 & US-50 Interchange Design Study, Harrison County, WV**

Dakota Smith served as a Project Designer for the I-79 US-50 Interchange Design Study in Harrison County, WV. For the design study, eight options were originally presented to the West Virginia Department of Highways (WVDOT) and three options were selected out of



Ben Prior is a staff engineer at TERRADON Corporation. Mr. Prior is responsible for a variety of tasks for civil engineering projects. He inspects, evaluates, designs and coordinates installation of structural systems. Much of his experience is in modification, improvement, and retrofitting for coal and railroad clients.

### **Project Experience**

#### **311 Bridge Rehabilitation, WVDOH, Greenbrier County, WV**

311 Bridge Rehabilitation consisted of the following; concrete deck replacement with lightweight concrete to achieve desired load rating using "Traditional" deck design, converting the abutments to semi-integral, and an adjustment to the normal cross-slope. Prior was part of the structural design team assisting with deck design and designing connection dowels for seismic loading per AASHTO.

#### **Route 60 Roadway Design Study Chelyan to Montgomery, WVDOH, Kanawha County, WV**

The Route 60 Design Study, following WVDOH guidance, divided approximately 12 miles of highway into 3 sections, with each section containing multiple study sites. A total of twelve sites were studied. Improvements studied included a roadway realignment, adding turning lanes, and slope stabilization. For each alternate at each site, roadway geometry, right-of-way impacts, environmental impacts, earthwork volumes, construction cost, etc. were assessed in order to recommend a preferred alternate.

#### **Port Perry Bridge Rehab, West Mifflin, PA**

While at another firm, Prior Inspected 1,600' plus railroad bridge. Inspection was performed by climbing with fall protection and by utilizing a specialized pontoon boat with extendable boom. Developed plans for railroad bridge rehab. Worked with bridge owner to prioritize needed repairs.

#### **Railroad Retaining Wall, Maidsville, WV**

While at another firm, Prior designed and acquired permits for (4) retaining wall for railroad company. The walls were approximately 100' to 250' long cantilevered and tie-back soldier pile wall. Coordinated with railroad and state DOT on right-of-way locations.

#### **Railroad Retaining Wall, Shamrock, PA**

While at another firm, Prior designed and acquired permits for a retaining wall for railroad company. The wall was approximately 250' long cantilevered soldier pile wall. Designed maintenance of traffic plan while coordinating with state DOT officials.

#### **General Railroad Infrastructure, Various Locations East of Mississippi**

While at another firm, Prior designed fueling platforms, jib crane foundations, stairs, sand silo foundations, underground concrete vaults, and other facility structures for a railroad company. Most of these projects were retrofitting and rehabilitation designs. These designs required creative solutions that both fulfilled the owner's need and fit into the significant constraints of limited space and cost effectiveness. Loading and analysis included wind, gravity, buoyancy, and seismic when applicable.

### **Education**

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

### **Certifications**

Registered  
Professional  
Engineer: WV

### **Total Years Experience**

8



Joe Saunders is a Professional Engineer, licensed in West Virginia, Ohio, Virginia, North Carolina, Kentucky, Maryland, Alabama and Nevada. Saunders offers a wealth of experience through projects performed for the West Virginia Department of Transportation and Ohio Department of Transportation and related to engineering design and plan development for structures and roadways.

As Lead Designer for Transportation at TERRADON Corporation, Saunders is responsible for the development of construction plans for transportation, including bridge replacements and rehabilitations, roadway and highway design, right-of-way plans, and ancillary design. Additional responsibilities include preliminary design and reports, construction plans and specifications, construction estimates, contracts and bidding review, and construction engineering.

Saunders directs the highway design team for hydrology and hydraulic calculations. Saunders also works with the highway design team to schedule manpower and capacity for design projects and provides daily coordination of project tasks with clients/owners. With 28 years of experience as a designer and almost a decade of additional experience in highway and bridge construction, Saunders is experienced with all critical elements required of this contract.

Saunders has provided Project Management and design experience on numerous highway and bridge projects in Ohio, West Virginia, Indiana, Pennsylvania, and North Carolina.

### **Project Experience**

#### **AEP Building Expansion, Ashland, KY**

TERRADON was contracted by AEP to design a new exterior ramp enclosure. The building extension projected from an existing maintenance facility, and the building extension was used to enclose an existing ramp to protect the ramp and traffic on the ramp from the weather. Saunders was the engineer of record for this project.

#### **Toyota Office Expansion , Buffalo, WV**

TERRADON was contracted by TMMNA to design and oversee construction of a 6000sf expansion at the manufacturing facility in Buffalo, WV. Saunders was the engineer of record for this project.

#### **Toyota Waste Water Tank Farm , Buffalo, WV**

TERRADON was contracted by TMMWV to design a new tank farm for the existing manufacturing facility in Buffalo, WV. As part of the project, TERRADON also designed a secondary containment system for the tank farm. Saunders was the engineer of record for this project.

#### **Toyota Stair Tower, Buffalo, WV**

TERRADON was contracted by TMMWV to design a new exterior stair tower to provide roof access to the existing motor manufacturing plant in Buffalo, WV. Saunders was the engineer of record for this project.

#### **Toyota Various Plan Review, Buffalo, WV**

TERRADON was contracted by TMMWV to act as an independent plan reviewer providing oversight and plan review comments on plans prepared by other consultants. TERRADON reviewed plans and provided comments to the owner. Saunders was the engineer of record for this project.

### **Education**

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

### **Certifications**

Registered  
Professional  
Engineer: WV,  
OH, VA, NC, KY,  
NV, MD

### **Total Years Experience**

28



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**Bluestone Dam Structural Design & Inspection, Summers County, WV**

Saunders has served as the Lead Project Structural Engineer of Record for the Bluestone Dam Phase IV Construction team working for Heeter Construction under the direction of the USACE. Designs included structural cantilevered steel framing anchored to the sloped downstream face of the dam that supports drilling operations for anchor installation and a 150 ton crane. The cantilevered platform extends 32' from the face of the dam, with supports spaced up to as much as 15'. This spacing provides main support members to accommodate the full weight of the 150 ton crane and support vehicles, and requires a detailed examination of fatigue prone members for the design service life of the project. All members below ordinary high water level were designed to support full loadings and force effects from water and debris collisions. Project Engineer responsibilities include providing professional and technical leadership and expertise on structural design and inspection to professional staff.

**AEP Gavin Power Plant, Mercury Reduction Basin Design, Kanawha County, WV**

Served as Project Manager and Lead Designer to design a Mercury Reduction Basin. The project was created as a Mercury (Hg) Reduction effort to comply with EPA requirements. The Mercury Reduction Facility was created to reduce the mercury effluent level at the storm water discharge at the Gavin Power Plant. The facility was created by designing a concrete sump where chemicals could be added to the storm water that would cause the mercury to precipitate where it could be mechanically removed. The sump was constructed of reinforced concrete walls that acted as both load bearing structures as well as earth retaining structures. The sump had a vertical divider to create two separate chambers, which allowed one chamber to be in service for the treatment of the effluent while the other chamber was being serviced or cleaned. A complicated valve mechanism was designed to control effluent flow to the desired chamber.

**Noise Wall Design, Montgomery County, OH**

Structural Design Engineer for the design of drilled shaft foundations, FAA aeronautical clearance requirements, and plan review of the free standing noise wall located adjacent to I-75 near Dayton, OH.

**American Electric Power John E. Amos Plant Haul Road Project, Putnam County, WV**

Engineer of Record for the haul road and bridge for the John E. Amos Power Plant. The project consisted of approximately 0.75 miles of new roadway alignment along with a 3-span continuous steel bridge crossing WV817. Prior to building this project, trucks hauling ash from the coal fired power plant travelled along WV817 to reach the land fill. AEP desired to remove this truck traffic from WV817 as part of a community outreach program. Saunders was responsible for all aspects of the project, including roadway geometry, design of the bridge, design of an MSE wall, and permitting. The roadway geometry had to be worked to avoid interference with transmission towers, a helipad, and various other geometric constraints along the corridor. The bridge design was performed using custom loads provided by AEP. The power plant desired to build a bridge that could handle loads that were nearly double the design legal limit, which would allow the plant to use overloaded trucks to reduce the number of cycles to the landfill. The bridge was located in a tight radius curve with three radial supports and one severely skewed abutment. The curvature of the bridge along with the skew created very complicated geometry and load paths. In addition to the complicated geometry, Saunders devised an erection scheme for the project that would allow the bridge superstructure to be erected without the need for shoring towers. Under normal erection procedures for curved girder bridges, intermediate towers are erected to prevent the curved girders from rolling over during erection, and the towers can also be used to jack the girders into place. The erection scheme devised by Saunders eliminated the potential for roll over while at the same time eliminating the need for the girders to be jacked into place. This scheme offered significant cost and time savings to the owner over conventional erection procedures.

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Robert Simmons serves as a Project Engineer at TERRADON Corporation. He offers a background in structural, highway, geotechnical, and hydraulic design, as well as material testing and inspection. He has provided services on a number of projects throughout West Virginia, Virginia, Kentucky, and Ohio.

### **Project Experience**

#### **Bluestone Dam Phase IV, Summers County, WV**

Simmons was a Senior Design Engineer for the Bluestone Dam Phase IV Construction team. Designs have included structural cantilevered steel framing anchored to the sloped downstream face of the dam that is able to support not only the drilling operations for anchor installation, but also a 150 ton crane. The cantilevered platform extends 32' from the face of the dam, with support spacing in excess of 15'. The design required not only that each main support member was able to accommodate the full weight of the 150 ton crane and supply vehicles, but also required a detailed examination of fatigue prone members for the design service life of the project. An additional design concern was that all members below high water level had to be designed to support full loadings, along with force effects from water and debris collisions.

#### **Catfish Man of the Woods Bridge, Cabell County, WV**

Simmons was a Senior Design Engineer for the design of the replacement of the Catfish-Man-of-the-Woods-Bridge. Tasks included assisting with the layout of the new bridge and roadway alignment, design of cantilever wing walls with up to 18 foot heights, drilled shaft foundations, semi-integral abutments, reinforced elastomeric bearings, spread pre-stressed box beams, and reinforced concrete deck. He also provided technical assistance to junior staff.

#### **Portsmouth Bypass Design/Build, Scioto County, OH**

Simmons was a Senior Design Engineer for the design of two bridge for the proposed Portsmouth Bypass Design Build project. Tasks included assisting with the layout of new bridges, driven pile foundations, integral abutments, reinforced and un-reinforced elastomeric bearings, pre-stressed bulb "T" beams, and a 35' tall cap and column pier. He also provided technical assistance to junior staff.

#### **Noise Wall Design, Montgomery County, OH**

Simmons was a Design Engineer assisting in the design of the drilled shaft foundations, FAA aeronautical clearance requirements, and plan review of the free standing noise wall located adjacent to I-75 near Dayton, OH.

#### **Value Engineering Sections 3 & 5 of Corridor "H", Tucker County, WV**

Simmons aided in the design of roadway drainage, super elevations, and vertical geometry. He also provided assistance with plan and cross section review and quantities.

### **Education**

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

### **Certifications**

Registered  
Professional  
Engineer: WV

### **Total Years Experience**

11



Andrew Brenner serves as a Project Engineer at TERRADON Corporation. He offers a background in bridge inspecting, steel design, and bridge design. Brenner has provided services on various projects throughout West Virginia.

### **Project Experience**

#### **Twin Branch, McDowell County, WV**

Served as a hydraulic designer for two culverts by using bridge modeling programs: TR-55, HY-8, and HEC-RAS and developed a hydraulic design report. Brenner also checked roadway and bridge calculations and calculated vertical curve geometry.

#### **I-79/US50 Interchange, Harrison County, WV**

Brenner checked MDX bridge models and load calculations.

#### **Harper Road Bridge Rehabilitation, Raleigh County, WV**

Brenner was the lead structural inspector of fracture critical and fatigue prone details. All areas inspected were documented using photographs and notes as required.

#### **MacArthur Bridge Rehabilitation, Raleigh County, WV**

Brenner was the lead structural inspector of fracture critical and fatigue prone details. All areas inspected were documented using photographs and notes as required.

#### **Mossy Interchange Bridge, Fayette County, WV**

Brenner was the lead structural inspector of fracture critical and fatigue prone details. All areas inspected were documented using photographs and notes as required. Brenner was tasked with designing parapets, approach slabs, sleeper slabs, abutments, and the reinforcement that goes along with each of these. Brenner was also tasked with checking MDX modeling and load calculations. Brenner was also tasked with doing Bridge and Roadway quantities and creating the tables that go with them.

#### **WV 311 Bridge Rehabilitation, Greenbrier County, WV**

Brenner was the lead structural inspector of fracture critical and fatigue prone details. All areas inspected were documented using photographs and notes as required. Brenner drilled four 2" diameter concrete cores on each of the piers. Brenner was tasked with using TAEG to do an overhang design. Brenner was tasked with designing parapets, approach slabs, sleeper slabs, abutments, and the reinforcement that goes along with each of these. Brenner also checked crash wall, abutment, and wing wall reinforcing. Brenner was also tasked with checking MDX modeling and load calculations. Brenner was also tasked with calculating and checking Bridge and Roadway quantities and creating the tables that go with them. Brenner also assisted with populating beam camber and deflection tables.

#### **Earl Vickers Montgomery Bridge, Kanawha County, WV**

Brenner was the lead structural inspector of fracture critical and fatigue prone details. All areas inspected were documented using photographs and notes as required. Load ratings and distributed and concentrated

### **Education**

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

### **Certifications**

Engineer In  
Training: WV

OSHA 10 HR

OSHA 40 HR

WVDOH Level III  
TRET

Aerial Operator  
Certified

### **Total Years Experience**

5



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loads were also calculated for the stringers and girders in order for inputs to be put into programs. Brenner served as the project manager on this job. Calculations were done for Bridge and Roadway. Brenner also proposed design and layout for scuppers and down spouting system for the bridge and designed the approach and sleeper slab with reinforcement.

**3.5 Alley (Huntington, WV), 2018-Present**

Brenner was tasked with fixing a problem drainage alley in Huntington, WV that has multiple low point sections that retain water causing traffic problems.

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