

# West Virginia Army National Guard



**CEOI 0603 ADJ20000000009**

## Buckhannon Readiness Center Phase II Design

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2020 MAY -5 AM 10: 11  
WV PURCHASING  
DIVISION

**McKINLEY**  
ARCHITECTURE + ENGINEERING

*in association with:*

 **TERRADON**

**STAHL SHEAFFER  
ENGINEERING**

 **KDM Consultants, L.L.C.**

4 May 2020

Tara Lyle  
Buyer Supervisor  
Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

Dear Ms. Lyle and Members of the Selection Team,

McKinley Architecture and Engineering, TERRADON Corporation, Stahl Sheaffer Engineering, and KDM Consultants (McKinley Team) have teamed up, and are pleased to provide the West Virginia Army National Guard, Construction and Facilities Management Office with our Expression of Interest to provide professional architectural/engineering design services for the construction of an addition at the Buckhannon Readiness Center. As you review this submission, we emphasize the following strengths of the McKinley Team with respect to your project:

***McKinley Architecture and Engineering*** (*McKinley & Associates*) is a **full service Architectural / Engineering** firm that has been providing design services since 1981. With offices in Wheeling and Charleston, WV and Pittsburgh, PA, we support a professional staff of **Architects, Engineers, Construction Administrators, LEED Accredited Professionals specializing in Building Design and Construction, a Qualified Commissioning Process Provider**, and more.

McKinley Architecture and Engineering has been **honored to be a partner with the West Virginia Army National Guard** for multiple projects, and we wish to continue our service with you on this project as well. As you may know, we were awarded the Buckhannon USPFO Warehouse project, which didn't come to fruition. We can still handle a large project, have worked on multiple projects which cost up to \$32 million, and know we can provide you with the services needed to complete this Buckhannon Readiness Center addition as well.

McKinley Architecture and Engineering is on the **forefront of innovative design**. We have designed LEED Certified and LEED Registered projects, projects listed on the U.S. Environmental Protection Agency's ENERGY STAR program, and more. Not only have we won multiple State awards for our designs, we have also won many National awards and recognitions. McKinley was recognized for our commitment to sustainability and high performance green buildings, and was presented with the 2019 Governor's Award for Leadership in Buildings Energy Efficiency.

***TERRADON Corporation*** will be utilized for all **geotechnical engineering, civil/site engineering, utilities and road infrastructure**. Since 1989, TERRADON staff have provided a wealth of engineering solutions blanketing West Virginia with successful projects. The **second-generation, family-owned business** built its reputation on expert personnel and quality, time-sensitive service. Those same founding principles hold true today. Their service departments work cohesively to provide turn-key solutions that strive to exceed client expectations.

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The TERRADON staff includes **engineers, landscape architects, surveyors, scientists, and LEED Accredited Professionals**. TERRADON offers **professional engineering services** for **civil/site, land development, transportation, energy, environmental, field services, utilities, geotechnical**, and much more. TERRADON Corporation maintains leading-edge staff in three locations: Nitro/Poca, WV; Lewisburg, WV; and Fayetteville, WV. TERRADON is a **certified Women's Business Enterprise** as defined by the Women's Business Enterprise National Council, and is the largest woman-owned engineering firm in West Virginia.

**Stahl Sheaffer Engineering, LLC** is a multi-discipline engineering firm that has been providing **structural engineering** services since 2006. With a staff of 170, they specialize in building design, structural engineering, LEED design, and much more. Their Building Structures Group is experienced in the design of new construction, additions, and renovated spaces serving a broad spectrum of building uses and construction types including a full realm of structural materials. They operate from a total of 9 locations in 3 states, including Morgantown and Charleston, WV offices. Stahl Sheaffer was once again ranked in Engineering News-Record's (ENR) National Top 500 Design Firms list in 2019!

**KDM Consultants, LLC** is a professional consulting firm, located in Clarksburg, WV, that specializes in **cost estimating**. KDM is led by Daniel L. Moore, CPE, a **Lifetime Certified Professional Estimator** with over 38 years experience estimating construction projects up to 120 Million Dollars. He was the Chief Estimator for a subsidiary of one of the nation's leading contractors by volume of sales for 22 years and managed a satellite office for them for 19 years prior to starting KDM. As a CPE, Dan follows the Standard Estimating Practice Manual guidelines established by the American Society of Professional Estimators. He has been the Chief Estimator for similar projects such as the WVARNG Eleanor Readiness Center Phase II, the U.S. Army Reserve Center in Charleston, and much more.

**In closing**, we love what we do, so we care about the results you get. We are ready to begin **immediately** and will **meet all your Project Goals and Objectives**. Thank you for reviewing our submission and considering the McKinley Team for your project.

Personal Regards,



Ernest Dellatorre  
President

McKinley Architecture and Engineering  
(304) 233-0140 x115  
EDellatorre@McKinleyDelivers.com



**For your convenience, we have ordered and answered our Expression of Interest by following your criteria listed in "SECTION THREE: PROJECT SPECIFICATIONS - Part 3. Qualifications and Experience."**

**"Vendors should provide information regarding its employees, such as staff qualifications and experience in completing similar projects ..."**

For overall capabilities to perform this work; first and foremost, the McKinley Team can state that our design team and large professional staffs will devote the time necessary to provide the West Virginia Army National Guard with a successful project. The McKinley Teams' portfolios include multiple relevant projects; examples of which you will see later in our proposal. Together, our Team will handle all of the **goals and objectives** of your project, including architectural and engineering services; providing a high-level overview of the Construction; construction cost estimates; designing a permanent masonry building consisting of an assembly hall, classrooms, learning center, kitchen, toilets and showers, office space and administrative and general purpose areas; all electrical and mechanical systems; supporting assets consisting of paved roads, concrete pads, concrete sidewalks and vehicle parking; physical security measures ; cost effective energy conserving features; geotechnical work ; necessary drill borings; researching and investigating the location of existing underground and above ground utilities; road infrastructure; construction bid services; and more.

The building vision, the atmosphere, and the impression it leaves are some of the defining aspects of a facility and some of the hardest to achieve. It takes great consideration of space and place to achieve successful integration of all these aspects. **Together**, the design Team we have assembled will **work with you** to develop the Buckhannon Readiness Center addition that will successfully meet all of your goals and objectives.



*McKinley Architecture and Engineering* was founded on July 1, 1981. We are a multi-discipline full service Architecture & Engineering firm, offering comprehensive in-house professional services in Architecture, Engineering, HVAC Commissioning, Sustainable and Energy Efficient (LEED) Design, Construction Administration, and more. Our corporation is Headquartered in Wheeling, West Virginia, and also has satellite offices in Charleston, West Virginia, and Pittsburgh, Pennsylvania. By virtue of our proximity, we can provide project services in an **economical, effective and efficient manner**, while also **responding expeditiously** to your project's needs.

**We believe our strength lies in the quality of the people we employ.** Our seasoned staff has an unsurpassed knowledge of the business and the dedication it takes to make each project a success. As a 39 year old firm, we also take pride in the individual **stability** of the workforce. Our Director of Engineering Services, Tim E. Mizer, PE, RA, QCxP, who is an Architectural Engineer, an Architect, and a Qualified Commissioning Process Provider, has been at McKinley Architecture and Engineering since 1995.

McKinley has been honored to be a partner with the West Virginia Army National Guard for multiple projects, and we wish to continue our service with you on this project as well. Most recently, we just finished up the design of an HVAC and electrical upgrade at the AASF#1 hangar in Williamstown. We also recently designed all the MEP Systems for the West Virginia Army National Guard on both the Multipurpose Building and the ChalleNGe Learning Center at Camp Dawson in



Kingwood; both of these buildings have been recognized and been awarded either merit or honor award from the West Virginia AIA. We have worked on dozens of SPCC Plans. Furthermore, we were awarded the **Buckhannon** USPFO Warehouse project, which didn't come to fruition.

We have created designs to help **provide first responders at all levels** the necessary tools to effectively mitigate, plan for and respond to all types of hazards that have the potential of occurring at various facilities; both man-made and natural. Some of our various architectural and engineering projects have involved National Guard, State Police, fire departments, governmental, homeland security, emergency services, public safety, and other sensitive materials. From these projects, we now have employees with various levels of Security Training and Background, such as FBI background clearance, PCII (Protected Critical Infrastructure Information) "Authorized User Certification," and are certified and have loaded documents into ACAMS (Automated Critical Asset Management System). We now have a great understanding of the information required by First Responders - which we utilize in our designs!

McKinley Architecture and Engineering is on the **forefront of innovative design. Sustainable Design** is a fastly growing and supported philosophy. **We can incorporate energy efficient "green" design into the projects.** McKinley Architecture and Engineering identifies the changes necessary in the design of today's buildings to meet the demands of the future. This approach helps to retain the buildings' long-term profitability and value, which achieves the buildings' sustainability. We offer proactive solutions to complex problems such as indoor air quality, resource depletion, water quality, and much more. It is with this experience that we are able to bring insight to the design to retain and improve your long term value. We have **LEED Accredited Professionals specializing in Building Design and Construction on staff, which includes your Project Manager, Thomas R. Worlledge, AIA, LEED AP BD+C, REFP.**

**For a few recent sustainable awards, McKinley was presented with the 2019 Governor's Award for Leadership in Buildings Energy Efficiency** at the 2019 Innovation & Entrepreneurship Day at the Capitol! We were recognized for our commitment to sustainability and energy efficiency in the design of **office buildings, schools, multi-use facilities,** and a wide variety of **commercial, industrial, government,** and historical structures. Our designs have also won **West Virginia Department of Environmental Protection's Clean Energy Environmental Award, 2 Black Bear Awards for the Highest Achievement** for the WV Sustainable Schools program, **2 U.S. Department of Education Green Ribbon Schools,** and a **Gold Medal Green Building Award** by Building of America, among others! In addition to sustainable awards, our firm has **won multiple additional State and National awards and recognitions for our works.** Some of these are: WV AIA Honor Award, WV AIA Merit Awards, Governor's Award for Historic Preservation, and American School & University Magazine's Architectural Portfolio - Outstanding Design, to name a few. We also have a project that is **Collaborative for High Performance School (CHPS) Registered;** the United States' first green building rating program designed for schools.



Furthermore, we have designed 4 projects listed on the U.S. Environmental Protection Agency's **ENERGY STAR** program: **Building 55: West Virginia State Office Building in Logan, Hilltop Elementary School, Cameron Middle/High School, and Johnson Elementary School.** To receive an ENERGY STAR, you need to perform in the top 25% of the most energy efficient projects in the program. **Building 55: West Virginia State Office Building is one of the most energy efficient buildings in the State, and is in the Top 5% of all ENERGY STAR rated buildings in the Country!**





**TERRADON's** diverse team of **95 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 is the **largest, woman-owned engineering firm in West Virginia.** TERRADON maintains **professionally registered engineers, landscape architects, and surveyors** as well as a competitive team of highly **certified inspectors and environmental specialists.**

## STAHLSHEAFFER ENGINEERING

*Stahl Sheaffer Engineering* is a **multi-discipline engineering firm** that has been providing structural engineering services since 2006. Their **Building Structures Group** is experienced in the design of new construction, **additions**, and renovated spaces serving a broad spectrum of building uses and construction types. Their engineers are experienced with materials from steel to wood to concrete to brick and limestone. Stahl Sheaffer embraces Prevention through Design (PtD). With **170 personnel** and **ten locations**, including Charleston and Morgantown, WV, they have the resources as well as the experience to support the Buckhannon Readiness Center addition.



**KDM Consultants, L.L.C.**

At *KDM Consultants*, they are well versed in all levels of estimating including Schematic Design, Design Development and Construction Document (Definitive) estimating methods for all disciplines. Daniel L. Moore, CPE is a Lifetime Certified Professional Estimator with over 38 years experience estimating construction projects up to \$120 million. KDM's estimating software is a state of the art estimating system with "dump to Excel" capabilities, assemblies capabilities, and click on Cost Data from R.S. Means.

**For the entire McKinley Team;** your design team members have been chosen, and will devote the time needed to design your project on schedule. We are available to start **immediately** upon being selected. In addition to those key team members whose resumes are seen later in the submittal; the McKinley Team currently has the ability to dedicate additional resources and can also attribute more professionals from our various trades to accomplish your goals. **We will be available during the term of the project. We can and will perform for you on time.**

*Resumes of the key staff, and information about our Corporations, are seen on the following page.*

# Thomas R. Worledge, AIA, LEED AP BD+C, REFP

Architect / Specialized LEED AP / Educational Facility Planner

Southern WV-Area Manager / Charleston Office Manager



## EDUCATION:

Virginia Polytechnic Institute & State University  
Master of Architecture - 1992

Fairmont State College, School of Technology  
B.S. Architectural Eng. Tech. - 1983

## PROFESSIONAL AFFILIATIONS AND REGISTRATIONS:

### Registered Architect in:

West Virginia  
Ohio  
Pennsylvania  
Tennessee  
Virginia

### National Board Certification:

NCARB

### President:

West Virginia Society of Architects

### Member:

The American Institute of Architects  
US Green Building Council  
Sustainable Building Industries Council  
Recognized Educational Facility Planner

### Former voting member:

ASHRAE 90.1 International Energy Code  
Committee

## PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Manager, Charleston Office  
Charleston, WV (2005 to present)

Proactive Architecture Inc.  
President  
Charleston, WV (1999-2005)

Silling Associates Inc.  
Vice President  
Charleston, WV (1992-1999)

TAG Architects  
Charleston, WV (1985-1990)

Alpha Associates Inc.  
Morgantown, WV (1983-1985)

## SUMMARY OF EXPERIENCE:

Thom is a skilled **Architect (AIA)**, a **LEED Accredited Professional** with a **specialization in commercial building design and construction (LEED AP BD+C)**, and a **Recognized Educational Facility Planner (REFP)**. He is a registered architect in 5 states, including West Virginia. Mr. Worledge is a former voting member of the ASHRAE 90.1 Standards committee that forms the basis of the International Energy Code. He was also the president of the state chapter of the AIA. Mr. Worledge has been involved in design of projects ranging in from a small home additions (one of which was featured on HGTV's New Spaces Show) to multimillion dollar projects such as the \$20 million Parkersburg High School renovation/addition and historic preservation project, the fast-tracked \$6 million WVU IOT Maclin Hall renovation project, the **LEED Certified Building 55: West Virginia State Office Complex** in Logan, and the \$30 million Fairmont State University 3 building "University Terrace" Student Housing College Apartments Complex to name a few. Thom won a 2013 Placemaker Award for "Leadership, Inspiration, Stewardship" from West Virginia GreenWorks, at The Building Conference in Morgantown; moreover, 3 of his projects (N&D Natural Energy Design Building, Hilltop Elementary School, and Williamson SMART Office) all won Placemaker Awards. The **LEED Certified Hilltop Elementary School** won multiple State and National awards and recognitions.

## NOTABLE PROFESSIONAL ACHIEVEMENTS:

Building 55: WV State Office Complex in Logan (**LEED Certified**)

West Virginia State Police - Open-End A/E contract / multiple projects across WV, including WVSP Academy's renovations to Buildings A, B, & C; new Buildings D & Multi-Purpose Building. New Logan Detachment

WVDHHR's new Ohio County office fit-out / renovations

United States Postal Service - Open-End IDIQ (Indefinite Delivery / Indefinite Quantity) contract / multiple projects across WV

West Virginia School Building Authority - New construction & renovations for multiple districts, including Boone, Hancock, Harrison, Marshall, Ohio, & Wood County Schools. Projects cost up to \$20+ million

Veterans Affairs Medical Centers - multiple VAMCs around WV and PA

West Virginia University - Open End A/E contract / University Police Building office fit-out & WVU Tech's Maclin Hall Dormitory renovations

Fairmont State University - "University Terrace" College Student Housing Apartments 3 Building Complex (\$30 million)

West Virginia State University - Gus R. Douglass Economic Development Center (DigiSo) renovations/repurpose

Charleston Enterprise Center office renovation (**2009 WV AIA Design Award winner / energy efficient "green" design**)

Natural Energy Design (N&D) Building (**2013 Placemaker Award**)

Marshall County Schools - Hilltop Elementary School (**LEED Certified - won multiple WV and National Awards & Recognitions**)

Williamson SMART Office fit-out (**LEED Registered / 2013 Placemaker Award**)

# Tim E. Mizer, PE, RA, QCP

Architectural Engineer / Architect / Commissioning Provider

Director of Engineering Services

## EDUCATION:

Kansas State University  
B.S. Architectural Engineering - 1983

University of Cincinnati  
Architecture

## PROFESSIONAL AFFILIATIONS AND REGISTRATIONS:

**Registered Engineering in:**  
Ohio  
West Virginia

**Registered Architect in:**  
Ohio

**Qualified Commissioning Process  
Provider**

## PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Director of Engineering Services  
Architect / Engineer  
Wheeling, WV (1995 to present)

M.C.C. Engineering  
Director of Design  
Columbus, Ohio (1988-1995)

Schooley Caldwell and Associates  
Electrical & Mechanical Design  
Columbus, Ohio (1986-1988)

Mizer Design  
Free Lance Architectural Engineering Design  
Columbus, Ohio (1985-1986)

Envirotek, Inc.  
Drafting and Electrical & Mechanical Design  
Raleigh, NC (1984-1985)

## SUMMARY OF EXPERIENCE:

Mr. Mizer is a very talented and unique professional being both a **Professional Engineer** and a **Registered Architect**. He joined McKinley Architecture and Engineering in 1995, and has over 35 years of experience. Mizer's background as an Architect and Engineer has provided him with a total understanding of the engineering components and the process necessary for integrating architectural design and building systems. Furthermore, he is also a **Qualified Commissioning Process Provider**, and has been formally trained to fully understand how integrated HVAC systems function and how systems interface with others to run your building efficiently. As the **Director of Engineering Services**, Mr. Mizer's presence is a key to the design procedures required to coordinate the functionality of the engineering systems into the aesthetics of a building space.

## NOTABLE PROFESSIONAL EXPERIENCES:

West Virginia Army National Guard - multiple projects

WVDOT, Division of Highways - District 6 Moundsville Headquarters renovations

United States Postal Service - dozens of projects throughout Pennsylvania and WV, including renovations

Building 55: WV State Office Complex in Logan (LEED Certified)

Building 34: WV State Office Complex in Weirton

West Virginia Department of Health & Human Resources' Ohio County office fit-out / renovations

Holiday Inn Express & Suites - 5 projects in 4 States, including PA

Candlewood Suites Hotels

Fairmont State University - 3 building "University Terrace" Student Housing College Apartments Complex (\$30M)

WVU Institute of Technology - Maclin Hall Dormitory renovations

West Virginia State Police Academy - Buildings A, B, & C dormitories renovations

Braxton County Senior Center renovations

West Virginia Independence Hall renovations

Lincoln National Bank renovations

Orrick's Global Operations Center renovations

Maxwell Centre renovations

Wagner Building renovations

Bennett Square renovations

Ft. Henry Building renovations

The Towers Building renovations

Marshall County Schools - Hilltop Elementary (LEED Certified)

# Bruce A. Kennedy, PE

## Electrical Engineer

### EDUCATION:

The University of North Dakota  
B.S. Electrical Engineering - 1975

DeVry Institute of Technology

### PROFESSIONAL AFFILIATIONS AND REGISTRATIONS:

#### Registered Engineering in:

West Virginia  
Ohio  
Pennsylvania  
Texas

### MILITARY SERVICE:

US Air Force - Honorable Discharge

### PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Electrical Engineer  
Wheeling, WV (2018 to present)

Advanced Electrical Simulations LLC  
Owner/Principal Engineer  
Spring, TX (2014 to present)

Cameron International  
Principal Electrical Engineer  
Houston, TX (2011-2014)

### SUMMARY OF EXPERIENCE:

Mr. Kennedy has been an **Electrical Engineer** since 1975. He is an experienced power electronics/electrical systems design engineer with extensive electrical simulation experience using ETAP, SKM, EasyPower and PSIM. He personally owns and maintains ETAP license. He has completed electrical system designs for industrial, office, medical, educational, retail construction, and more.

### NOTABLE PROFESSIONAL EXPERIENCES:

WVDOT, Division of Highways - District 6 Moundsville Headquarters renovations

Belmont County Divisional Courts & Offices renovations

The Towers Building renovations

Harrison County Schools - Johnson Elementary School

Tyler County Schools - multiple projects

Wetzel County Schools - New Martinsville School renovations

Wetzel County Schools - Valley High School meat lab

Wetzel County Schools - Valley Field House

Facilities arc-flash, short-circuit fault, protective device coordination, load flow and harmonics studies.

Facilities electrical system existing conditions, code compliance and problem solving surveys.

Drilling rig short-circuit fault current, protective device coordination, load flow and harmonics studies.

Application of NEC, IEC and ABS standards to mobile offshore drilling rig electrical systems.

Computer data center electrical system design and onsite project management.

Data center short-circuit fault current, protective device coordination and arc-flash studies.

Electrical system designs for medical, industrial, office and retail construction.

Building load analyses, emergency generator sizing and fault current studies.

Electrical system designs for hospitals, medical clinics and educational buildings.

Short-circuit fault current, protective device coordination and arc-flash studies.

Industrial battery charger and UPS systems power electronics design.

Custom power conversion equipment/systems design.

# Michael J. Clark Sr.

## Electrical Engineering Designer

### EDUCATION:

Eastern Gateway Community College  
A-ATS Electro-Mechanical Engineering - 2012

Jefferson Community College  
A-ATS Electrical Trade Technology - 2003

### PROFESSIONAL AFFILIATIONS AND REGISTRATIONS:

Certified in SMAW Weld Process & Basic  
Welding and Applications 2002

West Virginia Journeyman License

Ohio Fire Alarm License

OSHA 30 Certified

### PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Electrical Engineering Designer  
Wheeling, WV (2012 to 2018, 2020 to present)

Arcelor Mittal  
Maintenance Technician Electrician  
Weirton, WV (2012)

M.J. Electric  
Journeyman Electrician  
Iron Mountain, MI (2010-2012)

Erb Electric Company  
Journeyman Electrician  
Bridgeport, OH (2009-2010)

Bechtel Group Inc.  
Journeyman Electrician  
Glendale, AZ (2009)

Cattrell Companies, Inc  
Journeyman Electrician  
Toronto, OH (1998-2009)

### SUMMARY OF EXPERIENCE:

Mr. Clark is an Electrical Engineering Designer and a Certified Journeyman Electrician with over 20 years of industrial, commercial and residential experience. He is knowledgeable in all areas of the national electrical code and excels in analyzing and solving problems with various electrical controls and systems. Mr. Clark brings a cross-trained background to our projects, being skilled in both the design and the construction ends which gives him a unique ability to understand all aspects of a project. He is also adept in performing electrical and mechanical installations, maintenance and repairs in plant facilities. Furthermore, he is seasoned as an Electrical Foreman and Superintendent on both commercial and industrial job sites. His key skills include Electrical Systems & Controls, Installations & Maintenance, Electromechanical Repairs, Blueprints & Schematics, Generators & Transformers, Switches & Circuit Breakers, Electrical Code, Safety & QA, Wiring Diagrams, Troubleshooting, Testing Instruments, Motors & Conduit, CAD-2D/3D, Welding, & Residential construction.

### NOTABLE PROFESSIONAL EXPERIENCES:

Building 55: WV State Office Complex in Logan (LEED Certified)  
WVDRS Wheeling District's new office space fit-out  
Holiday Inn Express Hotels - on-call contract / multiple projects  
City of Steubenville - 5 Parks Lighting and Security project  
Franciscan University OP#1 Multi-tenant Retail Building  
Franciscan University OP#2 Office / Retail Building  
West Liberty University - West Family Stadium / Russek Field lighting & new Soccer & Track Stadium / West Family Athletic Complex  
Brooke County Schools - NEW Brooke Middle School  
Grant County Schools - Maysville Elementary renovations & Union Educational complex addition/renovations  
Hampshire County Schools - NEW Animal Vet Science Center  
Hancock County Schools - A.T. Allison Elementary addition/renovations, New Manchester Elementary addition/renovations, Oak Glen High School renovations, Senator John D. Rockefeller IV Career Center HVAC renovations, Weir High renovations, Weir Middle renovations, & NEW Weirton Elementary  
Harrison County Schools - NEW Johnson Elementary  
The Linsly School - Banes Hall addition/renovations  
Wheeling Island Hotel•Casino•Racetrack - multiple projects  
Carenbauer Wholesale Corporation warehouse addition/renovations  
Bennett Square office build-out  
Ft. Henry Building - multiple tenants fit-outs

# Scott D. Kain

## Plumbing & Electrical Engineering Designer

### EDUCATION:

Technology Education College /  
Ohio State University  
Associates in Mechanical Design - 1996

### PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Engineering Designer  
Wheeling, WV (2001 to present)

HAWA Inc.  
Mechanical Designer  
Columbus, OH (1998-2001)

Autotool Inc.  
Engineer  
Columbus, OH (1995-1998)

### SUMMARY OF EXPERIENCE:

Mr. Kain is an accomplished engineering designer who has performed in all the engineering trades we provide; specializing in electrical, plumbing, and fire protection. He has been utilized for various McKinley Architecture and Engineering' projects that needed additional mechanical, structural, and architectural manpower. In addition, Mr. Kain has also provided 3D renderings, to aid in business development, during his long tenure at McKinley Architecture and Engineering.

### NOTABLE PROFESSIONAL EXPERIENCES:

WV Army National Guard - multiple projects / new & renovations  
United States Postal Service - multiple projects / new & renovations  
Building 55: WV State Office Complex in Logan (LEED Certified)  
Building 34: WV State Office Complex in Weirton  
WVDHHR's new Ohio County office fit-out / renovations  
Wheeling Island Hotel•Casino•Racetrack multiple projects  
Holiday Inn Express & Suites - multiple projects in 4 States  
Candlewood Suites Hotels  
Sisters of St. Joseph's Convent renovations  
West Virginia State Police - multiple projects / new & renovations  
West Virginia University - new State Fire Training Academy  
Wheeling Island Fire Station  
Boone County Schools - multiple projects  
Brooke County Schools - multiple projects  
Grant County Schools - multiple projects  
Hancock County Schools - multiple projects  
Marshall County Schools - multiple projects, including LEED Certified  
Ohio County Schools - multiple projects  
Tyler County Schools - multiple projects  
Wetzel County Schools - multiple projects  
Wood County Schools - multiple projects  
Orrick's Global Operations Center  
Millennium Centre Technology Park  
VAMC Beckley renovations  
Jefferson County Jobs & Family Services renovations  
Harrison County Jobs & Family Services renovations  
Charleston Enterprise Center renovations (2009 WV AIA Design Award)  
Wheeling Park Commission - multiple projects at Oglebay Park & Wheeling Park

# Lee Belcher

## Senior Engineering HVAC Designer

### EDUCATION:

John Tyler Community College  
Mechanical Engineering Technology - 2012

### PROFESSIONAL AFFILIATIONS:

ASHRAE

ISPE

### PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Senior Engineering HVAC Designer  
Wheeling, WV (2020 to present)

ARBAS, Inc.  
Vice President  
Midlothian, VA (2013 to 2020)

### SUMMARY OF EXPERIENCE:

Mr. Belcher has greater than 30 years of experience leading design teams and managing construction efforts and contracts for Owner projects ranging from support buildings to multi-million-dollar facilities with diverse project scopes, sizes, and personnel. Since 1985, his HVAC project work has included educational facilities, dormitories, healthcare facilities, laboratory and cleanrooms, office buildings, mixed-use facilities, key project proposals, heat gain/heat loss calculations, equipment selection, project specific mechanical specification writing, code analysis; QA/QC for drawings, specifications, construction efforts and managing construction efforts to the Certificate of Occupancy. He has performed code evaluation and its application to project work which is an important component to project success. He has generated Construction Documents, performed QA/QC work on Construction Documents, as well as performed Construction Administration duties with QA/QC work during construction to punch list and through to Owner's Certificate of Occupancy.

### NOTABLE PROFESSIONAL EXPERIENCES:

#### Longwood University - Real Estate Foundation\*

Completed the Longwood University HVAC and electrical upgrades for multiple student housing buildings. Started project in the Conceptual Design phase and continued into construction with construction administration efforts. Led the mechanical design and managed project from conceptual design to completion. The project consisted of the upgraded replacement of hundreds of air-to-air heat pumps for student housing communities. Managed the contract for the 2.5 million-dollar upgrade effort through three phases of construction. Completed project with a pleased Client.

#### Media General - Office Building Renovation\*

Led the mechanical design of a newly constructed 9.6-million-dollar multi-story 40,000 sf building.

#### Department of Corrections - Adult Services Division Campus\*

Led the mechanical design of a new campus style training complex with multiple buildings including a commercial kitchen, dining space, multi-story classroom building, administration building, gymnasium and multi-story holding cells.

#### American University - Dormitory Renovation\*

Led the mechanical design for three aged dormitories with total of 114,000 sf into classroom and office space.

#### Franklin Military Academy at Richmond City Public Schools\*

Managed the construction administration for the replacement of system level equipment. Performed construction administration duties with QA/QC work during construction to punch list and through to Owner's Certificate of Occupancy.

#### Bolling Air Force Base - Washington, DC - DIA Mail Facility\*

Led the mechanical design for 3000 sf of newly constructed mail facility on a military base. Provisions were made for the application to combat bioterrorism concerns.

*\*previous work experience with a firm other than McKinley Architecture and Engineering*



# David A. Ullom

## Mechanical Engineering Designer

### EDUCATION:

Fairmont State University  
B.S. Mechanical Engineering Technology - 2011

Pierpont Community and Technical College  
Associates Degree in Applied Sciences:  
Drafting and Design - 2011

### PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
Engineering Designer  
Wheeling, WV (2019 to present)

Kennametal Inc.  
Sales Engineer (2016-2019)  
Applications Engineer (2012-2016)  
Latrobe, PA

Marion County Assessors Office  
Map Developer  
Fairmont, WV (2010-2012)

### SUMMARY OF EXPERIENCE:

Mr. Ullom is a results-driven individual who prioritizes safety, cost-effective solutions, and exceeding customer expectations. He is proficient in Autocad, Inventor, and Revit software. David also has experience as a Sales Engineer, Applications Engineer, and Map Developer, which provides an unique understanding for problem solving.

### NOTABLE PROFESSIONAL EXPERIENCES:

General Services Administration - Social Security  
Administration's Wheeling, WV Office

The Towers Building HVAC

Belmont County Divisional Courts

Jefferson County Justice Center

WVU Medicine - Reynolds Memorial Hospital

Trinity Health System - Crisis Rehabilitation Unit

Ohio County Schools - Bridge Street Middle School

Ohio County Schools - Madison Elementary School

Ohio County Schools - RESA 6 Building

Mid-Ohio Valley Technical Institute (MOVTI) HVAC

Mining sales in Illinois, Alabama, Kentucky, Ohio, and West Virginia.

Specialist in conical cutting and drilling tools for coal applications.

Reviewed test plans and procedures to ensure adequate coverage of system requirements.

Collaborated with scientific, engineering, and technical personnel to resolve testing problems and system malfunctions.

Created comprehensive test plans, test scripts, and use cases to support testing objectives.

Worked in different geologies across North America assisting sales force in finding the best product for the customer.

Developed and edited maps for the Assessor's office in Marion county, WV (Fairmont).

Gained experience in geographic information systems (GIS).

# Robert E. "Bob" Smith

## Construction Administrator

### EDUCATION:

University of Pittsburgh  
M.S. Industrial Engineering - 1989

United States Air Force Academy  
B.S. Behavioral Science /  
Human Factors Engineering - 1983

### PROFESSIONAL AFFILIATIONS AND REGISTRATIONS:

#### Board Member:

Indian Creek School District (elected in 2009)

#### Instructor:

Mechanical Engineering, Eastern Gateway  
Community College

#### Village Administrator:

City of Mingo Junction (2015 to present)

#### Commander:

American Legion Post 351 (2008 to present)

### PROFESSIONAL EMPLOYMENT:

McKinley Architecture and Engineering  
*Construction Administrator / Project Coordinator*  
Wheeling, WV (2009 to present)

Jefferson County Regional Planning Commission  
*Regional Planner*  
Steubenville, OH (2008-2009)

Edison Local School District  
*Director of Operations* (1999-2008)  
*Transportation Supervisor* (1998-1999)  
Hammondsville, OH

### MILITARY SERVICE:

Wright Patterson Air Force Base - Dayton, OH  
*Chief B-2, Block 20 Field Retrofit, \$300 million*  
*B-2 Systems Program Office* (1994-1996)  
*Team Leader, Process Improvement Technology*  
*Armstrong Laboratory* (1989-1994)

Randolph Air Force Base - San Antonio, TX  
*Chief, Test Construction Section*  
*Occupational Measurement Center* (1987-1988)  
*Quality Control Psychologist*  
*Occupational Measurement Center* (1985-1987)  
*Supervisor of Test Construction Team*  
*Occupational Measurement Center* (1983-1985)

### SUMMARY OF EXPERIENCE:

Mr. Smith has been a **Construction Administrator** at McKinley Architecture and Engineering for over 10 years. Bob is a self confident, articulate and highly motivated individual with superior interpersonal and teamwork skills. He has a plethora of experience in mid to upper level personnel management, advanced information systems integration, training, acquisition, contract management, transportation and maintenance, and quality control. He has 23 years of direct supervisory experience, as well as 13 years of documented success as an **Air Force Officer**. He is currently a member of the Board of Education for the Indian Creek School District in Jefferson County, Ohio. He is also an Adjunct Professor at Eastern Gateway Community College in Steubenville, Ohio, where he is teaching Mechanical Engineering.

### NOTABLE PROFESSIONAL EXPERIENCES:

West Virginia Army National Guard - AASF#1 HVAC renovations

Fairmont State University's new 3 building "University Terrace"  
Student Housing Apartment Complex

Towers Building renovations, multiple phases

Lincoln National Bank Building renovations/historic

Harrison County Courthouse historic roof

United States Postal Service - multiple projects thru multiple  
open-ended IDIQ contracts, including renovations

City of Steubenville - multiple renovation projects

Steel Valley Regional Transit Authority roof

Jefferson County Jobs & Family Services renovations

Brooke County Schools - Brooke High HVAC, new Brooke Middle,  
Follansbee Middle & Carlin Dodrill Fieldhouse renovations

Grant County Schools - Maysville Elementary & gymnasium  
renovations/HVAC & Union Educational Complex renovations

Hancock County Schools - A.T. Allison Elementary renovations,  
New Manchester Elementary renovations, Oak Glen High  
renovations/HVAC, Oak Glen High Multi-Sports Complex, Oak  
Glen Middle addition/renovations, Senator John D. Rockefeller IV  
Career Center HVAC, Weir High Multi-Sports Complex, Weir MS/  
HS HVAC, & new Weirton Elementary

Ohio County Schools - multiple renovation projects

Marshall County Schools - new Cameron High (LEED Registered)  
& new Hilltop Elementary (LEED Certified)

The Linsly School - Banes Hall addition/renovations & Behrens  
Memorial Gymnasium renovations

Follansbee City Building renovations

Cabela's Eastern Distribution Center

Cameron American Legion Exterior Renovations

## Firm History

Founded in 1981, McKinley Architecture and Engineering is a multi-discipline **full service Architectural & Engineering firm**, offering comprehensive **professional services in Architecture, Engineering, Energy Efficient and Sustainable (LEED) Design, Commissioning, Construction Administration, Learning Environment and Educational Facility Planning, and Historic Preservation.**

We have a broad range of skill and experience for projects involving **governmental, emergency service**, commercial/office, PK-12 schools, higher educational, sports & recreation, medical, private sector, and much more.

Over the years, our firm won multiple **State and National awards and recognitions** for our works.



## Firm Information

**Ernest Dellatorre**  
President

**Tim Mizer, PE, RA, QCxP**  
Director of Engineering Services

**Patrick J. Rymer, AIA, ALEP**  
Director of Architectural Services

## Date of Incorporation

July 1, 1981  
Wheeling, West Virginia

## Professionals

Architects  
Engineers  
Arch./Eng. Designers  
Construction Admins.  
LEED AP BD+Cs  
ALEP (CEFP)  
REFF  
Commissioning Provider  
Historic Preservationist

## Locations

32 Twentieth Street  
Suite 100  
Wheeling, WV 26003  
P: 304-233-0140  
F: 304-233-4613

129 Summers Street  
Suite 201  
Charleston, WV 25301  
P: 304-340-4267

5000 Stonewood Drive  
Suite 220  
Wexford, PA 15090  
P: 724-719-6975

## Credentials

McKinley Architecture and Engineering is a member of the following **organizations**:

A4LE (formerly CEFPI), ACI International, AIA, ASCE, ASHRAE, ASPE, AWI, BOCA, NCARB, NFPA, WVEDC, and more

## Follow Us

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Instagram: @McKinleyDelivers



Greg Fox oversees TERRADON's Land Development Sector. Fox has been responsible for hundreds of notable commercial, educational and recreational site development projects during his 28 year career. During his time as Land Development Department Head, TERRADON has earned Engineering Excellence Awards from the West Virginia Association of Consulting Engineers, numerous Merit Awards from the American Society of Landscape Architects, and the Gold Award from the American Council of Engineering Companies. Fox has performed a number of site selection and analysis services on projects over the last 30 years.

**Project Experience**

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

Provide Site Selection and Design for the 10,600+ acre site in Fayette County, WV. Responsible for site prioritization and selection criteria, feasibility studies, cost analysis, site grading, construction drawings, NPDES design and coordination for all project sub-consultants for NPDES permitting with WVDEP.

**Advanced Technology Centers, WV**

Provided site design services for two West Virginia Higher Education Policy commission Advanced Technology Centers located in Fairmont, WV and South Charleston, WV. Responsibilities included site identification, prioritization, evaluation, ranking matrix's, site record data, feasibility studies, and final site suggestions. Additionally provided grading, erosion and sediment control and utility design.

**Steel Dynamics, Cabell & Mason County, WV**

TERRADON was approached by the West Virginia Development office to provide site selection and evaluation services of a large industrial site for a prospective large scale industrial tenant in Cabell and Mason counties. To select and prioritize possible site options, TERRADON worked with WVEDO, Mason County Development Authority, and AEP to visit and review potential sites across the two counties. TERRADON evaluated multiple sites before ultimately suggesting a selected 550 acre site that had an additional 800 acre adjacent lot available for additional development. TERRADON services expanded from site selection and prioritization to survey, site planning, and design work for the prospective site tenant.

**K-12 Educational Facilities, WV**

Responsible for Master Planning, Site Layout and Design, Schematic Renderings, Parcel Identification, Feasibility and Cost Analysis, and construction drawings for hundreds of k-12 educational facilities throughout West Virginia. Additionally, Fox has provided site selection services on new school projects or relocation of school facilities throughout West Virginia. Projects include new construction as well as renovations and additions.

**Marshall University, Huntington, WV**

Responsible for Site Design, Utility Design, Grading and Drainage for Applied Sciences Building, Student Housing, Wellness Center and Parking Garage. Provided ADA compliancy on campus buildings and site design for existing soccer field.

**Education**

B.A. Landscape Architecture  
West Virginia University

B.A. Geography & Planning  
West Virginia University

**Certifications**

Registered Professional Landscape Architect: WV

LEED Accredited Professional

**Total Years Experience**  
+30

**Greenbrier Valley Medical Center, Lewisburg, WV**

Responsible for master planning through site/civil construction documents for the Greenbrier Valley Medical Center in Lewisburg, WV.

**Tazewell Community Hospital, Tazewell, VA**

Responsible for master planning through site/civil construction documents for the East Addition of the Tazewell Community Hospital in Tazewell, Virginia.

**Thomas Memorial Hospital, South Charleston, WV**

Responsible for site/civil construction documents for Thomas Memorial Hospital in South Charleston, WV.

**Grand Vue Park, Marshall County, WV**

Created a Master Plan for the expansion of the Marshall County, WV park. The Master Plan was followed by a Phase I design and construction drawing package that included six "tree house"-style lodges and a high adventure park to complement the park's existing zip lines. High adventure features include a 30' high aerial obstacle course, a 28' high rock climbing wall, a 60' gravity swing, a rappelling wall, a 43 ft mega jump and a giant trampoline.

**Greater Greenbrier Sports Complex, Lewisburg, WV**

Provided Master Planning and Grading Design Services for the Greater Greenbrier Sports Complex located north of Lewisburg, WV. Five phases include: Master Planning, Grading Study, Full Construction Documents, Utility Layout, Road Design, Erosion and Sediment Control.

**Glade Run, Zelienople, PA**

Conducted a master facility plan for a 300+ acre development for Glade Run Lutheran Services. This project involved a mixed-use development which included an equestrian trail, senior housing, single family residential, office, and retail.

**Palatine Park Master Planning, Fairmont, WV**

Provided master Planning Services for the City of Fairmont for the redevelopment of Palatine Park on the east side of the Monongahela River adjacent to downtown Fairmont, WV. The Master Plan featured new parking areas, walking trails, a vista overlook, a picnic gazebo and retail space.

**Putnam County Parks Master Planning, Putnam County, WV**

Provided Master Planning and site civil design services for the expanding Valley Park in Hurricane, Putnam County, WV. This work is part of a nearly \$2 million expansion, which was completed in 2013 and adds an additional 6 acres to the park. The project included planning for athletic fields, multiple parking lots, access roads and greenspace, but also incorporated a walking trail that ties into existing park trails. The plan was produced in coordination with the WVDOT to determine roadway/walkway ingress/egress and designed in accordance with local, state and federal regulations.

**Fairmont Riverfront Park Master Plan, Fairmont, WV**

The City of Fairmont and the Fairmont Renaissance Corporation intend to develop new recreation opportunities and at the same time enhance economic development opportunities for the community. The main goal of the planning process was to develop a plan that will allow for the comprehensive development and implementation of new elements to the riverfront. The elements planned will include rehabilitation of an existing park and new recreation, commercial, and residential opportunities.

Shawn Gray is an experienced Site Designer and Land Planner who serves as an integral part of the TERRADON design team. He offers experience on many of TERRADON's highest profile projects, focusing on large scale site development and parks and recreation projects. Gray also provides site design and landscape architecture services for K-12 and Higher Education projects. He is responsible for developing site, grading, landscape and utility plans, site detailing and erosion sediment control plans and permitting.

### **Project Experience**

#### **Bible Center Church Master Plan, Charleston, WV**

Project consisted of the layout of a soccer field, youth soccer fields, track, softball field, cross country/walking trail, a new sanctuary, chapel, pre k-8 school/gym, ministry village, new parking, independent living facilities, and assisted living facilities. Project also consisted of site grading and utility study and a budget estimate.

#### **Ohio Valley University, Vienna, WV**

Project consisted of designing a sports complex for the university. New amenities included a track and field events, soccer field, baseball field, new softball field, tennis courts, parking, basketball arena with amenities, and an outdoor sports hall of fame. Project also consisted of site grading and a budget estimate.

#### **Cabin Creek Health Systems, Sissonville, WV**

New medical/dental office building. Services included site layout, grading, drainage, utility, erosion and sediment control, details, and landscape. Site also included retaining wall layout and design, underground stormwater design, creek bank stabilization.

#### **Greater Greenbrier Sports Complex, Greenbrier County, WV**

Provided 5-Phased, Master Planning and Grading Design Services for the Greater Greenbrier Sports Complex located north of Lewisburg, WV.

#### **Valley Park Master Planning & Expansion, Hurricane, WV**

Served as a Site Designer for the expanding Valley Park in Hurricane, WV. The project included planning for athletic fields, multiple parking lots, access roads and greenspace, but also incorporated a walking trail that ties into existing park trails. The plan was produced in coordination with the WVDOT to determine roadway/walkway ingress/egress and designed in accordance with local, state and federal regulations.

#### **Volcano Island Master Planning, WV**

Provided land planning and design engineering, utility location and mapping services for the properties. The master planning provided vision for Volcano Island Water Park, allowing the City of Fairmont efficient and value-based use of the former environmentally concerned site.

#### **Sheetz, WV**

Provided site design services for Sheetz Service Centers at Scott Depot, Cross Lanes and Green Acres, WV. The projects consisted of site layout and design, utility design, hardscapes and landscape architecture.

### **Education**

B.A. Landscape  
Architecture  
West Virginia  
University

### **Total Years Experience**

+15

Pete Williams is a graduate of West Virginia University with a Bachelor of Science in Landscape Architecture. His responsibilities include landscape architectural design, grading and storm water drainage design, the design of pedestrian circulation systems and related amenities, roadway design, site planning, and quality control. Mr. Williams is registered as a professional Landscape Architect in West Virginia with more than 16 years of experience at TERRADON and more than 27 years of overall experience.

### **Project Experience**

#### **Fire Stations, Medical, First Responder, Public Facilities—Master Planning & Site Design Services, WV**

Yeager Airport Fire/Crash/Rescue Station, Fairmont Public Safety Building & Fire Safety Station, South Charleston Fire Station, Greenbrier Valley Medical Center, A New Marshall County Public Safety Annex, Putnam County Courthouse, A new West Virginia State Police Facility at Sharon Steel, A new Stonerise Care Facility at Thomas Hospital

#### **Advanced Technology Centers, WV**

Provided site design services for two West Virginia Higher Education Policy commission Advanced Technology Centers located in Fairmont, WV and South Charleston, WV. Responsibilities included site identification, prioritization, evaluation, ranking matrix's, site record data, feasibility studies, and final site suggestions. Additionally provided grading, erosion and sediment control and utility design.

#### **Higher Education— Master Planning & Site Design Services, WV**

Marshall University Student Recreation Center, Marshall University Student Housing, Fairmont State Inner Campus Design

#### **Grand Vue Park, Marshall County, WV**

Created a Master Plan for the expansion of the Marshall County, WV park. The Master Plan was followed by a Phase I design and construction drawing package that included four "tree house"-style cabins and a high adventure park to complement the park's existing zip lines. High adventure features include a 30' high aerial obstacle course, a 28' high rock climbing wall, a 60' gravity swing, a rappelling wall, a 43 ft mega jump and a giant trampoline.

#### **YMCA of Kanawha Valley, Kanawha County, WV**

Provided master planning services and prepared construction documents for the development of a baseball field and large multi-purpose field along with a walking trail system for the existing YMCA facility.

#### **Trace Fork Soccer Complex & Ice Arena, Kanawha County, WV**

Provided master planning and site design services as well as prepared construction documents for the development of six carrying sized soccer fields, an indoor ice arena, and associated roadway and parking to serve the large facility.

#### **Harveytown Park, WV**

Provided master planning and site design services and provided construction documents for the development of a new neighborhood park with walking trails, children's play areas, & basketball courts.

### **Education**

B.S. Landscape Architecture  
West Virginia University

### **Certifications**

American Society of Landscape Architects

West Virginia Chapter of American Society of Landscape Architects

### **Total Years Experience**

+20

Kristen Stinson McClung serves as a Civil-Site Engineer for TERRADON Corporation and is based in the Lewisburg, WV office. She brings nearly 20 years of engineering practice to public and private sector clients. From conception through acceptance of projects, McClung offers experience in civil, environmental, land development, streetscapes, survey, permitting, water, wastewater, paving, storm drainage, transportation and erosion-sedimentation control.

### **Project Experience**

**Tanyard Station Sanitary Sewer Design, Village of Barboursville, WV**  
McClung performed the Sanitary Sewer for this new commercial, out-door shopping mall. She performed the sanitary sewer calculations for the sizing of the trunk line through the development; for the new sewer pump station within the development for that area of the development that was too low for the primary gravity system; and for the new pumps associated with the Village's existing Pump Station #4. As part of the proposed development, the existing forcemain for Pump Station #4 had to be re-routed into the development's new sanitary sewer trunk line, resulting a new pump curve for the existing station.

### **Schoenbaum Tennis Court Asphalt & Storm Drainage Repairs, Charleston, WV**

McClung designed a new storm drainage underdrain system for the existing tennis courts. The courts were experiencing weeping from beneath the courts of trapped storm water runoff/ground water. As the existing courts were nearing the end the existing asphalt surface course's useful life, the Parks and Recreation Department decided that this was the appropriate time to install the needed underdrain system and re-surface the course, as the new underdrain system would require the demolition of the existing asphalt surface course. McClung, also developed the Contract Documents and Construction Specifications in coordination with the City of Charleston for the public bidding of this project.

### **The Greenbrier Sporting Club Driveway Drainage Projects, White Sulphur Springs, WV**

McClung was brought in to evaluate various private homes' driveways which were experiencing surface water runoff ponding issues from incorrectly graded driveways and non-functioning/undersized storm drainage systems. McClung developed new driveway grading plans and new stormdrainage collection and conveyance systems to alleviate the stormwater runoff ponding.

### **Tru-Hotel by Hilton, Lewisburg, WV**

McClung prepared the Site Drainage Plan for this proposed hotel within a new commercial development. Design responsibilities included the Site Layout and Parking Plan, the Site Grading Plan, and the Storm Drainage Plan. McClung also prepared the Site Design Package required by the City of Lewisburg's Planning Commission for review and approval by the City.

### **The Crossing – Cameron Martin Properties, Village of Barboursville, WV**

McClung design the new stormwater culvert beneath the proposed entrance drive for this new commercial development. In addition,

### **Education**

M.B.A. University of Georgia

M.S. Civil Engineering, Auburn University

B.C.E. Civil Engineering, Auburn University

### **Certifications**

Georgia Soil & Water Conservation Commission

Level II Certified Design Professional

### **Registration**

Professional Engineer: WV, GA, AL

### **Total Years Experience**

22



McClung performed the Pre-Development and Post Development Stormwater Runoff Calculations for this project for use by other Design Team members.

**Meadows Estates Neighborhood, Greenbrier Sporting Club, White Sulphur Springs, WV**  
Served as the civil-site design engineer of record for the newly created 11 lots within the Meadows Estates Neighborhood on the Meadows Golf Course. Design responsibilities included newly designed roads, water line extension, sanitary sewer extension, new storm drainage collection systems to replace existing ditches through the lots, and coordination with Mon Power of underground power extension/relocation.

**Center Court at Creekside, The Greenbrier, White Sulphur Springs, WV**  
Served as the project manager for this project, a 2500 seat outdoor tennis stadium and the historic Greenbrier Resort. Responsibilities included site grading to accommodate the bowl stadium, which required over 30,000 cy of fill material. McClung also sized and designed the storm water drainage system, sanitary sewer system, and water distribution system for the project.

**Creekside Stormdrainage Improvements for the Greenbrier Sporting Club, White Sulphur Springs, WV**  
Ms. McClung designed a new stormwater drainage collection and conveyance system for the Creekside Neighborhood in the Greenbrier Sporting Club. The existing neighborhood had poor drainage due to several low lying areas and an existing poor/inadequate stormdrainage collection system. Ms. McClung utilized an aerial survey to design a new stormdrainage collection system with special attention to the low lying areas. In addition, all the existing home downspouts were connected to the new system to remove the roof area runoff from the surface runoff.

**Summit Bechtel Reserve As-Built Drawings, Fayette County, WV**  
As project manager for the as-built portion of this landmark project, responsible with TERRADON's survey team for capturing all the as-built data for the large amount of underground utilities installed during the construction phase of this historic project.

**Seneca Trail Animal Hospital, Lewisburg, WV**  
Served as the civil-site design engineer of record for the Seneca Trail Animal Hospital. Design responsibilities included a new entrance road on shared right-of-way, grading of the subject site to include 2 new buildings, a new parking lot, an underground detention system with new injection well, and the required permitting of the proposed facility at the local and state levels.

**West Virginia School of Osteopathic Medicine New Entrance Road, Lewisburg, WV**  
Responsible for the civil-site design associated with the O-school's proposed new entrance road off WV State Route 219. The proposed entrance road will bisect an existing greenspace and provide visibility to the front of the school from 219. Design responsibilities included site grading, storm water drainage design, permitting of the project through the WVDOH, and the production of construction drawings.

**Spill Prevention, Control & Countermeasure Plan for The Greenbrier Resort, White Sulphur Springs, WV**  
Prepared the 2015 calendar year SPCC Plan for the 10,000 Acre hotel campus. Special emphasis was given to the on-site oil and gasoline storage facilities as well as the on-site electrical transformers.

As a Senior Engineer at TERRADON, Jim Nagy's primary focus is on designing civil engineering projects for public and private development projects throughout West Virginia. Nagy specializes in the design of water distribution systems as well as sewage collection systems. Nagy offers decades of hands-on experience and has previously provided design engineering services for schools, commercial developments, residential developments, public utilities and more. He earned a B.S. in Civil Engineering from West Virginia University and is a Professional Engineer in the State of West Virginia.

### **Project Experience**

#### **SPCC Planning**

updated SPCCs for All Crane & Equipment Rental and Spirit Services, Inc.

#### **School Projects**

Responsible for layout, design, and permitting of water and sewer lines for numerous school projects in WV. Projects entailed coordination with PSDs, municipal water and sewer departments, State and Federal regulatory agencies for design of facilities. Schools include: Blue Ridge Community and Technical College, Blue Ridge K-12, Burnsville Elementary, Flatwoods Elementary, Davis Elementary, Sutton Elementary, Little Birch Elementary, Frametown Elementary, Buffalo High School, Clay-Battelle High School, Confidence Elementary, Jefferson Elementary, East Hardy High School, Eastwood Elementary, Flinn Elementary, Geary Elementary, Gilbert High School, Greenbrier West high School, Hampshire High School, Harpers Ferry High School and 19 additional schools.

#### **Commercial Developments**

Responsible for layout, design, and permitting of water and sewer lines for numerous commercial developments in WV. Projects entailed coordination with PSDs, municipal water and sewer departments, State and Federal regulatory agencies for design of facilities. Developments include: Fairmont Federal Credit Union, Allegheny Energy Union (Fairmont), First Ward (Clendenin) Apartments, Milton Crossing, Tri-State Hotel and multiple convenience store sites throughout WV.

#### **Charleston Replacement Housing**

Utility design, primarily water, sewer and stormwater, and coordination of overall site activities with the project developer for multi-unit housing development. Each phase entailed the design and layout of several hundred feet of water, sewer and stormwater line, including multiple connections with the utility providers, i.e., the Charleston Sanitary Board and West Virginia American Water, and applicable permit applications. Also responsible for construction monitoring and provision of as-built drawings as required by the respective utility providers.

#### **Cathcart – Devonshire Development, Scott Depot, WV**

Designed sanitary sewer and water distribution system to serve more than 900 housing units in this private development.

### **Education**

B.A. Civil  
Engineering  
West Virginia  
University

### **Certifications**

Registered  
Professional  
Engineer: WV

### **Total Years Experience**

45

**Washington Woods Subdivision, Ravenswood, WV**

Designed more than 9,000 feet of water and sewer line and a 500 gpm fire pump water booster station to serve a 150 lot subdivision.

**Sawmill Village, Snowshoe, WV**

Designed approximately 2,800 feet of 8" water line and sanitary facilities to serve the Sawmill Village development project in Snowshoe, WV.

**Cabell County Water Main Extension Project**

Worked on design and layout of approximately 46,000 feet of water main for the Salt Rock PSD/WVAW. Responsible for bidding, contract award, and project management.

**Putnam County Water Main Extensions**

Worked on design and layout of approximately 63,000 feet of water main and a booster pumping station for the Putnam County Commission/WVAW. Responsible for bidding, contract award, and project management.

**Manila Ridge Water Main Extension Project**

Worked on design and layout of approximately 38,000 feet of water main for the Putnam County Commission/WVAW. Project has not received funding yet. However, will be responsible for bidding, contract award, and project management.

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

Provided engineering for the 10,600+ acre site in Fayette County, WV. Responsible for site prioritization and selection criteria, feasibility studies, cost analysis, site grading, construction drawings, NPDES design and coordination for all project sub-consultants for NPDES permitting with WVDEP.

**Advanced Technology Centers, WV**

Provided site engineering for two West Virginia Higher Education Policy commission Advanced Technology Centers located in Fairmont, WV and South Charleston, WV. Responsibilities included site identification, prioritization, evaluation, ranking matrix's, site record data, feasibility studies, and final site suggestions. Additionally provided grading, erosion and sediment control and utility design.

**Sheetz, WV**

Provided engineering services for Sheetz Service Centers at Scott Depot, Cross Lanes and Green Acres, WV. The projects consisted of site layout and design, utility design, hardscapes and landscape architecture.

With more than 35 years of experience in a wide range of surveying projects, Robert Thaw serves as head of TERRADON's Survey and Mapping department. He organizes and supervises survey crews, reviews project plans, and creates base mapping for various projects including noise barriers, interchanges, connectors, bypasses, sidewalks, bike paths, and bridges. Thaw oversees all TERRADON survey activities, including: preparation of Right-Of-Way plans; the development of GPS static networks for aerial mapping in the design of roadways; identification of existing utilities and property lines; base image development and control placement for construction projects; and drafting of legal descriptions for ROW parcels.

### **Project Experience**

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

Thaw delivered more than 14,000 acres of LiDAR, which was flown during full summer canopy. TERRADON provided the horizontal and vertical control utilizing GNSS receives, and least square static network adjustment. A subsequent control network, utilizing GNSS receivers and least square network adjustment was established by TERRADON for construction staking. Concrete monuments, and aluminum disks were used for the control points. The entire 14,000 acres was mapped at 2' contour interval, will accuracy's better than 1' contour specifications.

#### **City of Huntington Marina, Huntington, WV**

Thaw provided services which included: aerial photogrammetry control, aerial photography, LiDAR, engineering design survey, data computation, CADD, digital terrain modeling, boundary survey, civil information model (CIM), and hydrographic surveys. Utilizing VRS and GNSS, TERRADON provided the photo control to develop base mapping for the City of Huntington Marina. After receiving the aerial mapping, TERRADON performed field edits to confirm critical areas with the LEICA TS 15 P-1, and VRs GNSS.

#### **FMC Lagoon Decommission, Nitro, WV**

Working with a team member Tuck Mapping Solution, TERRADON has been involved with the AC&S Inc. site for approximately 10 years. Originally involved with developing photogrammetric mapping for the 61 acre site industrial site, TERRADON has provided topographic surveys; storm water system investigation utilizing robotic video and closed space entry; as-built surveys of processing facilities; boundary surveys, boundary subdivision; and utility easements. Most recently TERRADON was responsible for developing a plan to survey the toxic sludge in one of the on-site lagoons. TERRADON coordinated with the project's environmental scientist and client, to agree on a sludge density to survey.

#### **Laurel Fork Campground Bridge**

TERRADON provided surveying and design engineering on a USDA Forest Service project in Randolph County, West Virginia. Surveyors led by Thaw provided Right-Of-Way services, including courthouse research, construction easements, and location of alignments. Additionally, provided topographic mapping, project control for construction, hydraulic cross sections, and stream profiles.

### **Education**

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

B.S. Surveying,  
West Virginia  
Institute of  
Technology

### **Certifications**

Professional  
Surveyor: WV

**Total Years  
Experience**  
+35



**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.*



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.

### 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 maintains LEED  
accredited  
professionals on staff.*



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.



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







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 and 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

# Resumes

## Pete Brumberg, P.E., Director – Building Structures

### EDUCATION

2000 Bachelor of Architectural Engineering—Structural Emphasis  
The Pennsylvania State University

### PROFESSIONAL EXPERIENCE

Mr. Brumberg is responsible for directing Stahl Sheaffer's Building Structures Group. He is an integral member of the design team, bringing 19 years of expertise across a broad spectrum of facility types, building uses, and material types. He has experience in new construction and renovations, as well as structural forensics and serving as an expert witness. His experience as a multi-discipline team leader for a full-service A/E firm provides a heightened understanding of the importance of clear and timely communication, flexible design concepts, interactive multi-discipline coordination, and the implementation of non-traditional solutions as a dynamic design team member. Mr. Brumberg is an experienced BIM user and advocates using technology to improve the design and coordination processes. Stahl Sheaffer's building structures staff uses Revit exclusively on all projects.

### REPRESENTATIVE PROJECTS

- **Altoona Blair Redevelopment Corporation Penn Building Renovation, Altoona, PA** – Project Manager for the renovation of a 93-year-old building with a concrete frame structure and two-way span concrete floors utilizing drop panels at the support columns. The project entailed floor plan renovations with new penetrations for mechanical and plumbing systems renovations, relocation of existing walls, new openings in masonry walls, ADA ramps within the building, repair of concrete and steel framing damaged by water infiltration, and the addition of a steel dunnage frame to support new mechanical air handling and energy recovery units on the roof.
- **Penn State Morgan Center Academic Center Upfit, University Park, PA** – Managed structural engineering services for demolition and renovation to the ground and first floors of Greenberg Sports Complex to house the Morgan Academic Center. The northwest corner of the building was selectively demolished and rebuilt with curtainwall. Stahl Sheaffer assisted with details of new assembly and review of building stability, and with detailing a new ornamental stair within a two-story atrium space, and considerations for modifying the existing lateral force resisting system for the new intended use of the space. Prepared contract drawings to be sealed for submittal as part of permit application to L&I.
- **Penn State Greenberg Sports Complex Conversion, University Park, PA** – Managed structural engineering services for the conversion of the previous Penn State Ice Rink building to lab space, including the addition of a new composite steel framed second floor within the existing space, extending the mechanical room to add a second floor, and a new entry with lobby, elevator and grand staircase. Existing structure was reused to the greatest extent possible, and the new floor was laterally isolated from the existing structure with its own lateral force resisting system. Coordination with ductwork around new and existing framing was of key importance.
- **Covenant Woods Continuing Care Retirement Center, Richmond, VA** – Structural engineering manager for the design and renovation of Covenant Woods. The project included two new building additions with slab-on-grade basement, with framed first and second floor added to the north end of wing C. A new slab on grade building addition with framed second floor was designed to replace an existing one-story section of building on the south end of Wing A. Each section is a steel frame supporting the floors and light-gauge steel roof trusses. Exterior walls are light-framed steel construction supporting siding or masonry veneer. Design Services Complete: 2016. Construction is ongoing.



#### CREDENTIALS

Professional Engineer:

PA [REDACTED]  
(2007)

NY [REDACTED]  
(2012)

Leadership Centre County (Class of 2014)

American Institute of Steel Construction (AISC), Member

Aerial Work Platform Certification (2013)



CREDENTIALS

Professional Engineer:  
WV [REDACTED]  
(2015)

PA [REDACTED]  
(2012)

OH [REDACTED]  
(2015)

VA [REDACTED]  
(2015)

NJ [REDACTED]  
(2016)

American Society of Civil Engineers and the Structural Engineering Institute (ASCE/SEI)

American Institute of Steel Construction (AISC), Member

Aerial Work Platform

## Michael R. Maxwell, P.E. – Project Manager

### EDUCATION

Bachelor of Science, Civil Engineering Technology – Structures Concentration, University of Pittsburgh at Johnstown (2004)

### PROFESSIONAL EXPERIENCE

Mr. Maxwell is a Project Manager within the Building Structures Department. He brings 15 years of experience to the team with expertise in structural design, analysis, and inspection of both bridge and building structures. He has provided engineering design for structures of various material types and building uses, including projects for public, education, and commercial clients. He is also well versed in structural inspections and assessments. Mr. Maxwell's current project involvement includes the design of multi-story wood framed housing units, renovation and fall protection design for buildings owned by Penn State, and construction administration for projects under construction.

### REPRESENTATIVE PROJECTS

- The New First Church of God, McMechen, WV** – Stahl Sheaffer performed structural engineering design and analysis of the lower basement level and elevated structural floor slab for the new First Church of God. The construction of the church consists of a pre-engineered metal building system above the first floor supported by structural steel columns and concrete piers which were integral with the exterior basement walls. Stahl Sheaffer designed the 14-foot-tall concrete basement walls to act as a retaining structure as well as concrete shear walls resisting the diaphragm loading of the first floor slab. Steel columns were designed to support the pre-engineered metal building columns above. The elevated structural first floor slab consisted of concrete topping over 2" composite metal floor deck.
- Juniata College Ellis Hall, Huntingdon, PA** – Structural engineer for a two-story steel framed addition with an elevator to the entry of Ellis Hall. This facility houses several cafés, dining hall, ballroom, bookstore, broadcasting center, police department, student organizations, and various other student centers and departments. The structural framing laterally braced the addition by tying into the existing steel framing of Ellis Hall as well as steel moment frames. The second project was a three-story steel framed addition with a new elevator and basement level. The addition consisted of composite metal floor deck and laterally braced frames to allow the addition to stand independent of the existing structure. The third structure is a two-story entry addition to the Brumbaugh Academic Center. The new steel framing and composite metal floor deck was constructed to match the existing curved radius of the existing building facade and incorporates new full height glass storefronts and a second level balcony and seating area.
- Juniata College Good Hall, Huntingdon, PA** – Structural Engineer for the code-based design of three-story, steel framed entry addition for Good Hall, including below grade basement level and full height elevator. Good Hall contains more than 30 classrooms, two computer facilities (including a Mac lab), the business department's case study room, the audio/visual department, and three instructional laboratories. It contains some of the college's most advanced classrooms with computerized overhead displays, surround sound speaker systems, and videoconferencing technology. Foundations were designed and analyzed to address concerns with expansive soils identified at site. The addition included composite concrete deck over steel framing. Due to large window openings and limited clearance for traditional steel cross bracing, custom truss style lateral braces were designed to distribute and resist lateral loading. The existing structure was wood stud framed; the addition was designed as an independent structure.
- Penn State Greenberg Sports Complex, University Park, PA** – Engineering design for the conversion of the previous Penn State Ice Rink building to lab space, including the addition of a new composite steel framed second floor within the existing space, extending the mechanical room to add a second floor, and a new entry with lobby, elevator and grand staircase. Existing structure was reused to the greatest extent possible, and the new floor was laterally isolated from the existing structure with its own lateral force resisting system.



Professional  
Engineer:  
OH [REDACTED]  
(2017)

## Greg Wilhelm, P.E. – Project Engineer

### EDUCATION

Bachelor of Science, Civil Engineering-Structural Emphasis, Ohio University (2011)

### PROFESSIONAL EXPERIENCE

Mr. Wilhelm has eight years of experience in structural engineering design and detailing across a broad spectrum of facility types, building uses, and material types. As Project Engineer for Stahl Sheaffer, Mr. Wilhelm provides his expertise for the structural design of building structures in the education, commercial, recreational, and healthcare markets to various private and public clients. His experience with Revit 3D modeling is used as a vital tool for project coordination between all members of the design team including the owner, architect, and other engineering disciplines.

### REPRESENTATIVE PROJECTS

- **Ronald McDonald House Additions and Renovations, Morgantown, WV** – Lead structural engineer for the engineering design and detailing of 4,000 square foot 2-story wood-framed addition with basement and egress stair, addition of a new internal elevator, and new entry experience to existing Ronald McDonald House in Morgantown, WV. Interior renovations along with the anticipated additional square footage will increase the number of guest rooms by 13, almost doubling their current capacity and allowing them to better serve the families impacted by childhood illness.
- **West Virginia University Fall Protection, Morgantown, WV** – Engineering design and detail of fall protection systems for eleven buildings. Each project under this initiative includes field scoping and evaluation of existing conditions and the design of fall protection systems, including handrails, ladders, and platforms.
- **Penn State University Beaver Stadium VIP Suites Addition, State College, PA** – Lead structural engineer for the design and detailing for a new 145-foot-tall elevator tower and first floor lobby to serve the VIP suites of the existing football stadium. Responsibilities included design and detailing of structural layouts, gravity and lateral load resisting systems, foundations, as well as coordination with other disciplines. A 3D model of the existing stadium structure was developed to analyze the effect of connecting the new elevator tower to the existing lateral system and confirm the required capacity of the existing framing. The foundation design consisted of drilled micropiles concrete pile caps at the elevator tower columns to accommodate the geotechnical restrictions of the project site.
- **\*Penn State University Intramural Building Addition and Renovation, State College, PA** – Performed structural design and detailing services for the three-phase addition to the existing recreation building inclusive of new fitness/cardio rooms, a 40,000 square foot gymnasium as well as a new indoor turf field. The new additions were designed to integrate with the existing building through the demolition of exterior walls and extending the remodeling the running track to extend out into the new building spaces. Varying structural systems were used for each addition to integrate with the architectural layouts including masonry shear walls, tube steel braced frames, and steel moment frames with hollow tube columns that are exposed to view in the final structure.
- **\*American Electric Power** – Transmission Group Headquarters, New Albany, OH – Structural engineer for the 195,000 square foot office building for the headquarters of the AEP transmission group. At the heart of the building is a soaring, four-story atrium with bridges and a full height monumental stair that crisscross the space visually connecting the two separate wings of the office. The two wings were connected with the use of a post-installed pour strip to control differential lateral deflection in lieu of an expansion joint, reducing the overall cost and additional detailing/materials required to accommodate the separation of the buildings.
- **\*500 West Broad “Gravity” Mixed Use Retail/Residential Building, Columbus, OH** – Lead structural engineer for the analysis and detailing of the five-story wood framed residential portion of the building to be supported by a post-tensioned concrete podium below. The 272,000 square foot 240-unit residential portion includes two rooftop assembly spaces and a 5 story “living wall”.

(\* ) indicates projects completed with a previous employer.

## Firm Licenses

1. Delaware
2. Indiana
3. Kentucky
4. Maryland
5. Mississippi
6. New Hampshire
7. New Jersey
8. New York
9. North Carolina
10. South Carolina
11. Ohio
12. Pennsylvania
13. Tennessee
14. Virginia
15. West Virginia

## Services

- Building design & forensics
- Bridge design & NBIS
- Feasibility studies
- Facade & roof rehabilitation
- Survey & 360 scanning
- Land development & permitting
- Road & parking lot engineering
- Pedestrian & traffic services
- Construction inspection
- Geotechnical engineering & subgrade investigations
- Environmental consulting

[www.sse-llc.com](http://www.sse-llc.com)

# Corporate Profile

**Stahl Sheaffer Engineering, LLC** (Stahl Sheaffer) is a multi-discipline civil/structural engineering firm that has been providing structural and site engineering services since 2006. Stahl Sheaffer specializes in building design and rehabilitation, bridge design and NBIS inspection, surveying, land development, transportation engineering, geotechnical testing and design, construction inspection, and asset management. We are constantly updating our technologies to support our services, including a survey-grade LiDAR system and a mid-sized Matrice 200 Series drone. We provide engineering services for multiple markets including state agencies and municipalities, higher education, oil and gas, and private development including healthcare, hotel, recreational, residential, and senior living facilities.

Stahl Sheaffer was once again ranked as a top design firm in Engineering News-Record's (ENR) National Top 500 list and in the ENR Mid-Atlantic Top Design Firms list.



## Personnel

Stahl Sheaffer has a staff of 150 individuals from which we can assign resources to meet timelines and design requirements, including professional engineers (P.E.), surveyors (PLS), LEED designers, traffic engineers (PTOE), GIS specialists, sUAS pilot, Certified Bridge Safety Inspectors (CBSI), Nationally Certified Tunnel Inspectors (NCTI), certified facade inspectors (EIFS), construction inspectors, geotechnical analysts, and environmental scientists.

## Locations

We operate from a total of ten locations in three states, and our firm is licensed to operate in fifteen states with engineers licensed in many locations throughout the US.

# STAHL SHEAFFER ENGINEERING



**State College, PA**  
301 Science Park Rd, Ste 333  
State College, PA 16803  
(814) 689-1562

**Harrisburg, PA**  
4431 N. Front Street, Ste 102  
Harrisburg, PA 17110  
(717) 510-7222

**Southpointe, PA**  
6000 Town Center Blvd  
Ste 215, Canonsburg, PA  
15317 | (724) 960-1111

**Monroeville, PA**  
4055 Monroeville Blvd  
Building 1, Suite 400  
Monroeville, PA 15146  
(412) 229-8583

**Soils & Materials Lab, PA**  
360 Euclid Avenue  
Canonsburg, PA 15317  
(724) 206-9862

**Clearfield, PA**  
800 Leonard Street, Ste 200  
Clearfield, PA 16830  
(814) 205-4012

**Selinsgrove, PA**  
106 N High Street  
Selinsgrove, PA 17870  
(570) 374-4813

**Morgantown, WV**  
250 Lakewood Center  
Morgantown, WV 26508  
(304) 381-4281

**Canton, OH**  
1401 S Main St, Ste 203  
North Canton, OH 44720  
(330) 794-5490

**Charleston, WV**  
400 Allen Drive, Ste 100  
Charleston, WV 25302  
(681) 265-3842



## Building Structural Engineering

Stahl Sheaffer has completed building design services for industries, primary schools, higher education, research facilities, private residences, and government agencies. Our expertise in support of new construction and renovation encompasses a wide variety of building types, including labs, classrooms, housing, emergency facilities, parking garages, athletic facilities, and historic structures. Our engineers are experienced with materials from steel to wood to concrete to brick and limestone. Stahl Sheaffer's structural engineering department includes a staff of professional engineers dedicated to building structures, aided by designers who provide expertise in:

- Analysis of structural capacities
- Forensic investigation
- Historic preservation
- Retrofit of existing components
- Feasibility and planning studies
- Design of new facilities
- Rehabilitation design
- Construction shoring
- Construction administration

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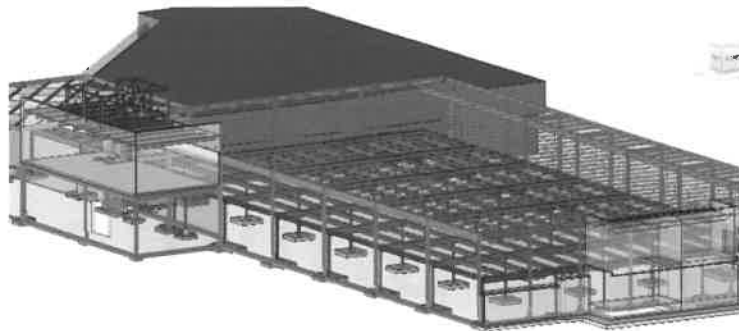
STAHL SHEAFFER  
ENGINEERING



# STAHL SHEAFFER ENGINEERING

- Construction inspection
- BIM / 3D modeling
- Compliance upgrades
- Façade restoration
- Roof repair

Our value is in the upfront analysis to identify root problems and provide solutions that are the most relevant, cost effective, and sustainable. We develop bid documents that allow consistent bids for completing necessary work. We engineer the structural design, prepare construction documents, and provide construction administration services throughout the project. Stahl Sheaffer embraces Prevention through Design (PtD). Several Stahl Sheaffer engineers have formerly served as municipal staff engineers, and know the processes involved in moving engineering designs through municipal staff reviews, design review boards, and planning commission approvals. We facilitate collaboration and avoid conflicts with multiple stakeholders, including owner project managers, architects, municipal officials, MEP's, landscape architects, and others using Revit.



[www.sse-llc.com](http://www.sse-llc.com)

STAHL SHEAFFER  
ENGINEERING

# Daniel L. Moore, Lifetime CPE

Project Estimator/Owner | KDM Consultants, LLC



**Office Location:** Clarksburg, WV

**Education:** Graduate South Harrison High School – Lost Creek, WV – Completed one year @ Fairmont State College – Lifetime Certified Professional Estimator by the American Society of Professional Estimators

**Experience:**

Total - 05 Years with Huffman Construction Co  
Total – 02 Years with McCanallen Corp.  
Total – 02 Years with Huffman Corporation  
Total – 21 Years with BBL Carlton/Carlton, Inc.  
Total – 10 Years as KDM Consultants LLC

**Affiliated Organizations**

American Society of Professional Estimators

WV Chapter of AIA

Construction Employers Association of North Central WV, Inc.

Harrison County Chamber of Commerce

**Brief Overview:** After one year in college, Dan has spent all of his time in the construction industry on a full-time basis for the past 40 years. He worked in the field for about five years before being promoted to Assistant Project Mgr./Estimator. During his 21 years working as Chief Estimator for BBL Carlton, LLC (a wholly owned subsidiary of BBL Construction Services – Albany NY), Dan received both his original Certification in 1992 as a Professional Estimator and later his Lifetime Certification 2008 from the American Society of Professional Estimators – Nashville, TN. He spent a year researching and writing the test for Unit Masonry for ASPE.

**Assignment/Role:** Owner – KDM Consultants, LLC

**Experience:** Dan has had experience in all levels of estimating including Design-Bid Build, Design Build, Schematic Design, Design Development and CD (Contract Definitive) estimating. He has been the Chief Estimator/Risk Manager on projects in excess of 100 million dollars. He has estimated and project managed projects up in the 20+ million dollar range. He also has CM experience on numerous projects including the new West Virginia Power Single A Baseball Stadium in Charleston, WV. He was in business with and trained under a professional engineer as well as a fourth-generation general contractor who held a B.S. degree in Architecture from the University of Cincinnati and who also served in the Officer's Corp. of the Seabees.





## KDM CONSULTANTS, LLC

Certified Construction Cost Consultants  
by the American Society of Professional Estimators

## What We Do

### Construction Cost Consulting for the Commercial, Institutional & Industrial Industries

Daniel L. Moore, CPE is a Lifetime Certified Professional Estimator with over 38 years experience estimating construction projects up to 120 Million Dollars. He was the Chief Estimator for a subsidiary of one of the nation's leading contractors by volume of sales for 22 years and managed a satellite office for them for 19 years prior to starting KDM. Dan has estimated a wide variety of different types of construction projects. He also has hands on experience in Construction Management as well as Design Build. Dan's brother Jim has well over 35 years in the educational field as well as a strong background in construction. Jim has a Master's Degree in Counseling/Psychology. Together Dan and Jim have assembled a team of professionals in all disciplines of construction in order to provide their clients with the most up-to-date professional cost consulting services available.

## Our Services

### Our team can help you

At KDM, we are well versed in all levels of estimating including Schematic Design, Design Development and Construction Document (Definitive) estimating methods for all disciplines. Dan has also worked on many successful Design-Build teams in the past. As a CPE, Dan follows the Standard Estimating Practice Manual guidelines established by the American Society of Professional Estimators.

These guidelines allow us to utilize the CSI (Construction Specifications Institute) master format for all of our detailed estimates. What you get is a legible, systematic and understandable estimate.

Our estimating software (ArenaSoft, LLC) is a state of the art estimating system with "dump to Excel" capabilities, assemblies capabilities, and click on Cost Data from R.S. Means. We use GTCO CalComp Digitizers for accurate quantity surveys.

Value Engineering is also a key asset at KDM. Due to our versatility and long tenure in the commercial construction industry, we have many options to choose from in order to get your project back on track and in budget.

We also offer pre-construction services in order to steer our clients in the right direction. Our relationships with Architects and Engineers throughout the state of WV, Ohio and Pennsylvania have allowed us to maintain a consistent client base in just under 9 years of operation.

And finally, Dan has been an expert witness in a multitude of cases involving construction litigation.

## Our Motto

"For which one of you, when he wants to build a tower, does not first sit down and calculate the cost, to see if he has enough to complete it? Otherwise, when he has laid a foundation, and is not able to finish, all who observe it begin to ridicule him, saying, 'This man began to build and was not able to finish.'" LUKE 14: 28-30



## ... references ...

We feel that the best way to demonstrate our strengths and leadership in design is by referring to our past and present clients. McKinley Architecture and Engineering have an ever-growing list of repeat clients, which include having multiple open-end contracts; many of these are in the governmental and educational sector. We have multiple open-ended contracts with organizations such as the United States Postal Service and West Virginia University to name a few. We are able to respond to their needs, and we are certain that we are able to respond to all of your needs as well. So that you don't only have to take our word for it; here is a list of references that we encourage you to call:

WVDOT DIVISION OF HIGHWAYS  
Mr. Joshua Smith, PE  
Buildings & Grounds Program Manager  
Maintenance Division  
1900 Kanawha Boulevard, East  
Building 5, Room 350  
Charleston, WV 25305  
(304) 887-2325

STATE OF WEST VIRGINIA  
Mr. Gregory L. Melton  
Director  
WV Department of Administration  
General Services Division  
1900 Kanawha Boulevard East  
Charleston, WV 25305  
(304) 558-1808

UNITED STATES POSTAL SERVICE  
Mr. Bruce Adams  
P.O. Box 20867  
22681 Woodward Avenue  
Ferndale, MI 48220-0867  
(248) 677-9660

WEST VIRGINIA STATE POLICE  
Major William Scott  
725 Jefferson Road  
South Charleston, WV 25309  
(304) 746-2124

ORRICK  
Will Turani  
Orrick, Herrington & Sutcliffe LLP  
2121 Main Street  
Wheeling, WV 26003  
304 / 231-2629

WHEELING ISLAND  
HOTEL • CASINO • RACETRACK  
Jeff Sellers  
Director of Construction  
Delaware North Companies, Inc.  
40 Fountain Plaza  
Buffalo, NY 14201  
716 / 858-5518

OHIO COUNTY SCHOOLS  
Dr. Kim Miller  
Superintendent  
2203 National Road  
Wheeling, WV 26003  
304/243-0300

HARRISON COUNTY SCHOOLS  
Dr. Mark Manchin  
Superintendent  
P.O. Box 1370  
Clarksburg, WV 26302  
304 / 326-7345

### WVARNG

Robert D. Davis, CPT, OD, WVARNG  
CSMS Superintendent  
304-541-6539

### Sleep Inn & Suites

Angela Harding  
15 Goff Crossing Drive  
Cross Lanes, WV 25313  
(304) 776-7711  
Fax (304) 776-7781  
Angela@SleepInnWV.com

### Four S Development

T.J. Summers, CCIM, RPA  
P.O. Box 2388  
Charleston, WV 25328  
O-304-345-8700 x102  
C-304-549-8700  
F-304-345-8704  
tsummers@summcos.com  
<http://www.summcos.com/>

### WVSU

José U. Toledo, Ph.D.  
Associate Vice President for Administration  
West Virginia State University Research and Public Service  
131 Ferrell Hall  
P.O. Box 1000  
Tel. 304-766-4290  
Mobile. 304-541-1413  
Email: [toledoju@wvstateu.edu](mailto:toledoju@wvstateu.edu)

### WV Higher Education Policy Commission

Richard Donovan  
1018 Kanawha Boulevard, East, Suite 700  
Charleston, WV 25301  
[Rich.Donovan@wvhepc.edu](mailto:Rich.Donovan@wvhepc.edu)  
Office: 304-558-0281 Ext. 212  
Desk: 681-313-2212  
Fax: 304-558-0259

# Testimonials & References

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**Joe Kantz, Chairman Snyder County Commissioners, (570) 837-4207, Middleburg, PA**

"I am happy to recommend the services of Stahl-Sheaffer Engineering. After a bad experience with another Engineering firm, Snyder County hired Stahl-Sheaffer Engineering to design and prepare plans and bid specifications for a Parapet project on the County Courthouse. Ever since then, they have been the "go to" Engineering firm for the county. They have worked on a number of projects since that time and we continue to be very pleased with their responsiveness to our customer needs."

**Bryan Yarnell, Allegheny Restoration, (724) 832-8209, Greensburg, PA**

"It is with great pleasure that we at Allegheny restoration endorse our recommendation on behalf of Stahl Sheaffer engineering. Over the last ten years, Stahl Sheaffer Engineering's team of skilled professionals has maintained a committed effort not only in engineering for the State College area, but the surrounding regions. Originating from a larger market like Pittsburgh, our company consistently works with new/different engineers and architects. Being that we work with so many, naturally we find those that excel at certain tasks more than others. We feel Stahl Sheaffer and their team are the total package. Engineering design, project management, on-site support, constant personable interaction, prompt and simple resolutions to problems, all reasons why we look forward to the opportunities to work with Stahl Sheaffer Engineering... efforts on the HUB parking deck and Beaver Stadium were among those that made our job, as a contractor, exponentially easier. Clear and concise drawings, simple to understand details, also most importantly knowing the region and its unique characteristics all play a role in understanding the problems that not only face the University but how those also impact the region. We believe that it is this effort by Stahl Sheaffer and their network of qualified individuals that shall continue to improve upon Penn State's already stellar reputation of excellence."

**Kurt H. Coduti, P.E., Project Manager, Office of Physical Plant, (814) 863-4960, The Pennsylvania State University, University Park, PA**

"Over the past several years, Stahl Sheaffer Engineering has provided excellent professional engineering services from scoping to construction administration for the preservation of the parking decks at Penn State University... the team has done a great job of making sure maintenance needs in the parking decks are being addressed in the most cost efficient and effective manner."

**Ron Kobelenske, Project Coordinator, Commonwealth Services, (814) 280-8792, The Pennsylvania State University, University Park, PA**

"I am the Project Leader for Commonwealth Services responsible for the Fall Protection improvement needs of the University's 28 Campuses and Research Centers throughout the Commonwealth, away from University Park. In this capacity, I have had the privilege to team with Stahl Sheaffer Engineering (SSE) to, assess risks, implement designs and administer construction on several projects. Aside from the excellent engineering services and extremely competitive fee SSE is widely known for and has consistently delivered for me, I'm most impressed by the design development methods SSE implements to reach a successful final design, especially when it comes to working with numerous stakeholders....SSE is at the top of my list to contact for my Fall Protection project needs. Finally, I would be pleased to speak about my experiences with Stahl Sheaffer Engineering."



## **KDM CONSULTANTS, LLC**

Certified Construction Cost Consultants  
by the American Society of Professional Estimators

## **Testimonials**

"Dan Moore and I have been close friends and "working partners" for more than 25 years. We often share information and ideas about construction and related costs. You can count on Dan to put full effort and skill on any task that he is given, and the results will be very helpful, even if not what your hopes had been. He is a professional and will give you his true best estimate."

**Carl Agsten**  
**President**  
**Agsten Construction**  
**Charleston, WV**  
**(304) 343-5400**

**Gary Wagner**  
**Metro Masonry, Inc.**  
**Barboursville, WV**  
**(304) 733-4353**  
**(304) 736-9131**

**Danny Huffman**  
**Former Director**  
**Yeager Airport Authority**  
**Charleston, WV**  
**(304) 744-6795**



**... copies of any staff certifications or degrees applicable to this project ...**

Copies of the McKinley Team's various **licenses** and **certifications** are found on the following pages. In addition, copies of Thom Worlledge's (your project manager) Registration & Authorization Certificate to provide Architectural Services in West Virginia, and other relevant certificates, are also included. Furthermore, the **degrees** and additional **certifications** these professionals have earned are listed on their **resumes**.

**The West Virginia Board of Architects**

certifies that

**THOMAS R. WORLLEDGE**

is registered and authorized to practice  
Architecture in the State of West Virginia.

In testimony whereof this certificate has been issued  
by the authority of this board.

Certificate Number [REDACTED]

*The registration is in good standing until June 30, 2020.*



A handwritten signature in cursive script, reading "Emily Papadopoulos".

Board Administrator





THIS CERTIFICATE HEREBY CERTIFIES THAT

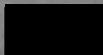
**Thomas Worlledge**

HAS ATTAINED THE REQUIREMENTS OF

**LEED AP BUILDING DESIGN + CONSTRUCTION**

BY DEMONSTRATING KNOWLEDGE OF GREEN BUILDING PRACTICES INCLUDING THE  
RELEVANT IMPLEMENTATION OF THE LEED® FOR BUILDING DESIGN + CONSTRUCTION  
CREDENTIALING SYSTEM

May 4, 2010



May 4, 2010





**CERTIFICATE**

*I, Ken Hechler, Secretary of State of the State of West Virginia, hereby certify that*

by the provisions of Chapter 31, Article 1, Sections 27 and 28 of the West Virginia Code, the Articles of Incorporation of

McKINLEY & ASSOCIATES, INC.

conform to law and are filed in my office. I therefore declare the organization to be a Corporation for the purposes set forth in its Articles, with the right of perpetual existence, and I issue this

**CERTIFICATE OF INCORPORATION**

to which I have attached a duplicate original of the Articles of Incorporation.

*Given under my hand and the Great Seal of the State of West Virginia, on this*

FIFTEENTH day of  
DECEMBER 19 89

*Ken Hechler*

*Secretary of State.*



# State of West Virginia



## Certificate

*I, Natalie E. Tennant, Secretary of State of the  
State of West Virginia, hereby certify that*

**MCKINLEY & ASSOCIATES, INC.**

was incorporated under the laws of West Virginia and a Certificate of Incorporation was issued by the West Virginia Secretary of State's Office on December 15, 1989.

I further certify that the corporation has not been revoked by the State of West Virginia nor has the West Virginia Secretary of State issued a Certificate of Dissolution to the corporation.

Accordingly, I hereby issue this

### CERTIFICATE OF EXISTENCE

Validation ID:0WV3W\_CQTDH



*Given under my hand and the  
Great Seal of the State of  
West Virginia on this day of  
October 27, 2015*

*Natalie E. Tennant*

*Secretary of State*

Notice: A certificate issued electronically from the West Virginia Secretary of State's Web site is fully and immediately valid and effective. However, as an option, the issuance and validity of a certificate obtained electronically may be established by visiting the Certificate Validation Page of the Secretary of State's Web site, <https://apps.wv.gov/sos/businessentitysearch/validate.aspx> entering the validation ID displayed on the certificate, and following the instructions displayed. Confirming the issuance of a certificate is merely optional and is not necessary to the valid and effective issuance of a certificate.

**WEST VIRGINIA  
STATE TAX DEPARTMENT  
BUSINESS REGISTRATION  
CERTIFICATE**

ISSUED TO:  
**MCKINLEY & ASSOCIATES INC  
32 20TH ST  
WHEELING, WV 26003-3750**

BUSINESS REGISTRATION ACCOUNT NUMBER: **1040-9524**

This certificate is issued on: **06/28/2011**

*This certificate is issued by  
the West Virginia State Tax Commissioner  
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered  
to conduct business in the State of West Virginia at the location above.*

**This certificate is not transferrable and must be displayed at the location for which issued.**

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.  
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4  
L0539442304

# CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers  
having verified the person in responsible charge is registered in  
West Virginia as a professional engineer for the noted firm, hereby certifies*

**MCKINLEY & ASSOCIATES, INC.**

**C00366-00**

**Engineer in Responsible Charge: TIM E. MIZER - WV PE 013169**

*has complied with section §30-13-17 of the West Virginia Code governing  
the issuance of a Certificate of Authorization. The Board hereby notifies you of its  
certification with issuance of this Certification of Authorization for the period of:*

**January 1, 2020 - December 31, 2021**

*providing for the practice of engineering services in the State of West Virginia.*

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,  
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF  
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA  
UNDER ITS SEAL AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT

# CERTIFICATE OF

# Authorization

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers  
having verified the person in responsible charge is registered in  
West Virginia as a professional engineer for the noted firm, hereby certifies*

**TERRADON CORPORATION**

**C00901-00**

**Engineer in Responsible Charge: ASHLEY L. LIOI - WV PE 020507**

*has complied with section §30-13-17 of the West Virginia Code governing  
the issuance of a Certificate of Authorization. The Board hereby notifies you of its  
certification with issuance of this Certification of Authorization for the period of:*

**January 1, 2020 - December 31, 2021**

*providing for the practice of engineering services in the State of West Virginia.*

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,  
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF  
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA  
UNDER ITS SEAL AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT

# CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers  
having verified the person in responsible charge is registered in  
West Virginia as a professional engineer for the noted firm, hereby certifies*

**STAHL SHEAFFER ENGINEERING, LLC**

**C04200-00**

*Engineer in Responsible Charge: AARON C. FAYISH - WV PE 020045  
has complied with section §30-13-17 of the West Virginia Code governing  
the issuance of a Certificate of Authorization. The Board hereby notifies you of its  
certification with issuance of this Certification of Authorization for the period of:*

**January 1, 2020 - December 31, 2021**

*providing for the practice of engineering services in the State of West Virginia.*

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,  
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF  
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA  
UNDER ITS SEAL AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT

*American Society of  
Professional Estimators*



*In recognition of satisfactory evaluation,  
The National Certification Board hereby  
confers upon*

*Daniel Moore, CPE*

*the status*

*Certified Professional Estimator*

*In the discipline of*

*General Estimating Knowledge*

*04200 Masonry*



*Original Date of Certification: November 1992*

*This Certificate Expires: 7/31/2009*

*Robert Young*  
\_\_\_\_\_  
President

*Henry W. Fisher*  
\_\_\_\_\_  
Chairman







## The American Society of Professional Estimators

In recognition of a Lifetime Commitment  
to the profession of Estimating,  
the ASPE National Certification Board  
hereby confers upon

*Daniel L Moore, CPE*

The status of

**LIFETIME CERTIFIED PROFESSIONAL  
ESTIMATOR**



Presented December, 2008

In the discipline of

**04200 Unit Masonry Estimating**

*William Manfredonia, CPE*

William Manfredonia, CPE  
National Certification Board Chairman

*Paulette R. Rutten, CPE*

Paulette R. Rutten, CPE  
National President



# State of West Virginia



## Certificate

*I, Natalie E. Tennant, Secretary of State of the  
State of West Virginia, hereby certify that*

**KDM CONSULTANTS, LLC**

Control Number: 99KLT

has filed its "Articles of Organization" in my office according to the provisions of West Virginia Code §§31B-2-203 and 206. I hereby declare the organization to be registered as a limited liability company from its effective date of July 6, 2010 until the expiration of the term or termination of the company.

Therefore, I hereby issue this

### **CERTIFICATE OF A LIMITED LIABILITY COMPANY**



*Given under my hand and the  
Great Seal of the State of  
West Virginia on this day of  
July 6, 2010*

*Natalie E. Tennant*

Secretary of State



## ... proposed staffing plan ...

First and foremost we can state that the McKinley Teams' large professional staffs will devote whatever time is necessary to provide the West Virginia Army National Guard with a successful project. If our project team is chosen for this project; they are available to start immediately upon our being selected, and will provide the necessary hours to complete your project on time. The work to be performed by your design team is very clear; to evaluate, prioritize and design within budget and schedule to meet your project goals and objectives.

We believe our strength lies in the quality of the people we employ. Our seasoned staff has an unsurpassed knowledge of the business and the dedication it takes to make each project a success. All of our project managers, Architects and Engineers, write their own specifications for a project. By doing so, the specifications are written for - and pertinent to - only your project.

The most important element of the entire process becomes communication from you to our professionals. We use and welcome your input throughout the project. We continually achieve success in projects by maintaining time and cost management, quality control and excellent communication amongst the client, consultants, and contractors.

Our experiences and approach to design requires a dialog with the Owner and the end users of the facility. Throughout the design process, we hold design workshops to get the critical information needed to achieve a design that meets your needs and budget. We do not only depend on our experience, but on the day to day experiences of those who use the building. We have found that this hands on approach allows us to focus on your needs and desires and to achieve a better outcome for our client.

We begin with an initial team meeting to open up a dialogue. The McKinley Architecture and Engineering professionals will sit down with the WVARNG and Buckhannon Readiness Center representatives to establish a scope of work and definite schedule. Building investigation, testing, surveys and research usually occur before the design phases start. Once clearly defined, a project moves into design. This is a very important step as it sets up the remainder of the project.

McKinley's Project Architect (Thom Worlledge) documents discussions and design decisions. Thom will coordinate project related tasks, code reviews or product demonstrations. You will also have the ability to review the plans and specifications at different completion percentages of the development phase. Additionally, at our regularly scheduled weekly project meetings the entire design team is constantly reviewing the process to discuss your project, the budget, schedule and quality assurance. We provide Documented Minutes of all of our meetings; moreover, so that we meet your objectives and requirements, we encourage the WVARNG to participate in these meetings.

Therefore, armed with all of this information, the McKinley Teams' professionals start the process of schematic drawings (SDs). This is the first time thoughts are put on paper. At the end of this phase the product is a first look at what the plans might look like, as well as a preliminary cost estimate. You will have a chance to review these plans. During the design development (DDs) drawings phase, plans start to take shape and changes are made. You will have a chance to review these plans as well. Next is the time that the McKinley Teams' professionals take all of the information gained from the meetings and the SD and DD drawing phases and produce the construction drawings (CDs) and specifications for the project. The CDs provide the tool needed for the contractors to

bid the project and information and details necessary to construct the building. Changes become difficult at this point. **Copies of the final documents will be distributed to you for final review and approval.**

For the **structural engineering**; Stahl Sheaffer offers a team of experienced engineers familiar with renovation and addition projects to develop the structural design. Mike Maxwell, P.E. will serve as the Project Manager for Stahl Sheaffer and be their primary point of contact and serve as the engineer in responsible charge. Greg Wilhelm, P.E. will provide design, analysis and production work on this project under the supervision of Mr. Maxwell. Mr. Wilhelm will perform review of the existing facility to verify current conditions as we will look to limit unforeseen conditions and conflicts which result in change orders or time loss during construction. Pete Brumberg, P.E. will oversee this project and assist our primary team members by assigning additional staff as needed, being available as a point of contact, and performing Quality Assurance reviews during the design process.

**After conclusion of the design phases**, McKinley Architecture and Engineering will prepare Final Construction Plans and Specifications and a final cost estimate for all aspects of the project. We will also submit necessary applications for jurisdictional permitting to allow construction. We will assist in **bid** preparation and selection. We will conduct a pre-bid meeting to handle all bidding information as well as conduct the bid opening and reporting.

Finally, the **Construction Administration** phase involves the construction of the project. Our professionals now act as your agent and watch over the project. We will work with the contractors to make sure they are building what we designed and specified and are doing it correctly. We handle all paperwork from the contractor and provide the owner with approved pay requests. This phase is very important to ensure that you get what you are paying for.

**McKinley Architecture and Engineering** is on the forefront of **innovative and energy savings designs**. We approach ecological design from a business perspective, offering proactive solutions to complex problems such as **indoor air quality, energy efficiency, sustainability, and water quality**. We recently designed a **\$30 million complex**, which is **one of the first buildings in WV designed for all LED interior and exterior lighting - and the bids came in for the same cost as conventional florescent lighting**. **Function, economics and versatility**, in addition to the development of **strong aesthetic appeal**, are crucial elements in our design process.

Our 11-Month Walk-Through is a process where our professionals return to your facility 11 months after the project is completed. At that time they review all the work that was completed and check all warranties. We are making sure all of the covered work is in order and that the warranties do not expire with equipment or product not working properly. We have been doing this for **20 years**, long before it being adopted as an AIA 101 Standard. We also conduct Post Occupancy Evaluations with the Owner to find out how well we matched your needs.

**We know the McKinley Team possesses the required expertise to address all facets of your included project, and we will provide you with all the disciplines and services needed to make this project a success!**

**... Descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and what the project goals and objectives were and how they were met."**

West Virginia Army National Guard projects

*Location:* State-Wide, West Virginia

*Contact:* Mr. Phillip Emmerth  
Environmental Compliance Manager  
Wheeling AASF # 2  
538 Girtys Point Road  
Wheeling, WV 26003  
304 / 201-3529



*Type of Project:* New Construction, Renovations, Governmental - Full A/E Services

*Project Description, Goals, and Objectives:* McKinley Architecture and Engineering has completed multiple projects for you, the West Virginia Army National Guard, all around the State, including full A/E design services and construction administration. We recently completed an HVAC renovation and electrical upgrades project at the Williamstown AASF #1 main storage hangar and maintenance building. We were selected multiple times to provide Professional Engineer certifications of dozens of SPCC (Spill Prevention, Control, and Countermeasure) Plans and Amendments and Environmental Equivalence Certifications at multiple facilities across West Virginia. Furthermore, we were awarded the Buckhannon United States Property and Fiscal Office and Warehouse, but the project never came to fruition.

In addition, we have also teamed with Assemblage Architects to create 2 new buildings at the Camp Dawson campus in Kingwood, Preston County, WV; our involvement in these 2 projects includes HVAC/mechanical, electrical, plumbing, and fire protection engineering, as well as construction administration services:

The new Mountaineer Challenge Academy building program includes classrooms, an exercise area/gymnasium, offices, support staff areas, conference, recruiting, and a full service kitchen with dining facility; these spaces will accommodate the 160 young adults/student residents living at Camp Dawson. The gymnasium accommodates physical activity, weight training, and serves as the central hub of the complex. Drill exercises and formations, as well as graduation ceremonies are held here. The U-shaped building creates a large, central courtyard which includes a long shed-roof covered pavilion, along with a circular, concrete amphitheater.



This courtyard is a multi-purpose outdoor events area for student functions, training activities, drills and formations, educational purposes, receptions, and more. This project won a 2011 WV AIA Merit Award.



The mission of the new Multi-Purpose Building is a permanent masonry steel-framed structure that serves as the primary physical training and event space for the Camp Dawson residents. This project won a 2014 West Virginia AIA Honor Award. The facility houses a large gymnasium, a physical fitness area, locker rooms, shower facilities, offices, security lighting and fencing, and a unique entry. This project was designed with energy recovery systems, as well as daylight harvesting in the gym. The gymnasium was based on occupancy of 200 exercising, or 3,500 at rest for events/assembly.

## Park Drive Development

**Location:** Weirton, West Virginia

**Contact:** Mr. Mark Miller

City of Weirton  
200 Municipal Plaza  
Weirton, West Virginia 26062  
304 / 797-8500 x 1029

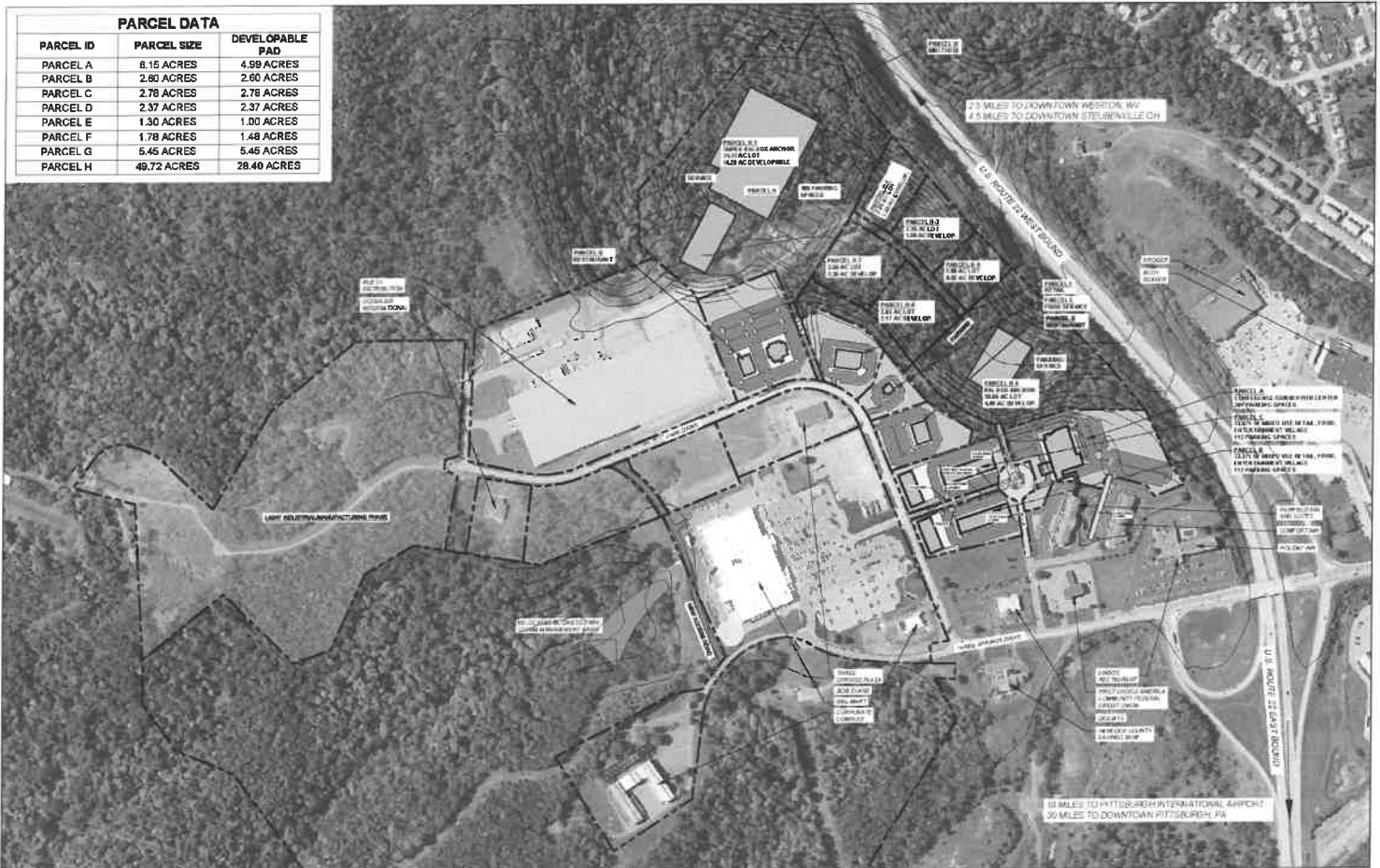
**Type of Project:** New Construction - Full A/E Services

**Project Description, Goals, and Objectives:** McKinley Architecture and Engineering and TERRADON Corporation are currently working together, along with the with the City of Weirton, for their Park Drive / Three Springs Drive development. This project will adhere to TIF & USDA Grant Funds regulations. There are 8 parcels, involving approximately 48 acres of land to be developed. There are 3 Tasks for this project:

**TASK #1** - 8,000 feet of ADA accessible sidewalks, with 3 options on lighting (approx. 75 poles) adhering to City of Weirton's Unified Development Ordinance (Section 11.6) and the WVDOT Transportation Alternatives program.

**TASK #2** - Site Preparation and infrastructure upgrades to access approximately 20 acres for immediate development and future development of an additional 29 acres along Park Drive. Scope to include site grading, permits, stormwater management, construction of a two lane road, sidewalks and street lighting, and additional segments of access roads and appurtenances.

**TASK #3** - Developing a master plan for the 20 acres to include retail, residential, restaurant, hotel/ conference center, and public spaces.

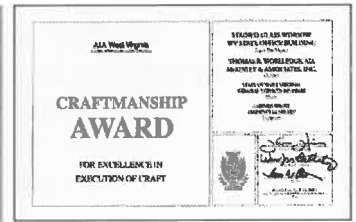




## **Building 55: West Virginia State Office Complex**

**Location:** Logan, West Virginia

**Contact:** Mr. Robert P. Krause, PE, AIA  
State of West Virginia  
General Services Division  
1900 Kanawha Boulevard East  
Charleston, WV 25305  
304 / 558-9018



**Type of Project:** New Construction, Governmental Building - Full A/E Services

**Project Description, Goals, and Objectives:** City leaders were searching for a catalyst to stimulate community efforts to revitalize downtown Logan, West Virginia. This office building - dedicated on August 16, 2013 - has become that inspiration. **In March 2014, this \$10 million project became LEED Certified.** This new 5-story building underscores its major role in the development and revitalization of downtown Logan by uniting office space for 127 employees for 6 State agencies (Department of Health and Human Resources, Division of Rehabilitation Services, the Offices of the Insurance Commissioner, State Tax Department, WorkForce West Virginia, and Workforce Investment Board) under one roof, whom were once scattered throughout the city.

The 53,200 SF building provides current technology, flexibility for future growth, and security features for existing and future tenants. At the request of the Owner, the building was designed to be energy efficient "green" and meet sustainable design goals. To help achieve this, the HVAC system is high efficiency, there is a rooftop energy recovery ventilator, a tight building envelope was created with closed cell foam insulation and thermal efficient windows. One of the unique features of the building is the natural daylight system where we added "light louvers" which redirect daylight to the ceiling and diffuse natural light throughout the space. The open offices were placed around the exterior of the building and the enclosed offices along the interior wall so more of the tenants receive quality light. In addition, interior windows allow the daylight to pass to the center offices. After the project was completed, the firm *alliantgroup* completed an Energy Efficient Commercial Building Tax Deduction study regarding the energy efficient features of the building (seen on the following pages), and they projected the building's total energy costs and power costs to have savings of \$34,231 annually!



# alliantgroup®

September 5, 2014

**Sent Via CMRRR: 7013 2630 0000 2069 4021**

Mr. David J. Hildreth  
West Virginia Department of Administration  
900 Pennsylvania Ave., Ste. 500  
Charleston, WV 25302

Re: Logan State Office Bldg. – Energy Efficient Commercial Building Deduction

Mr. Hildreth:

alliantgroup has completed an Energy Efficient Commercial Building Tax Deduction study for Logan State Office Bldg. for Massaro Corporation. As required by U.S. Tax Code § 179D, notification must be given to the building owner regarding the energy efficient features of the building and the building's projected annual energy costs.

Below is a list of the energy efficient features of the building which were installed on or in the building as part of a plan designed to reduce the total annual energy and power costs in comparison to a reference building which meets the minimum requirements of ASHRAE (American Society of Heating and Refrigeration, and Air-Conditioning Engineers) Standard 90.1-2001.

**Heating, Ventilation, and Air Conditioning Systems:**

- Boilers
- Unit Heaters
- Chillers
- Energy Recovery Ventilation

**Interior Lighting Systems:**

- Fluorescent Bulbs
- LEDs
- Occupancy Sensors

**Building Envelope System:**

- Pre-Cast Panels
- Rigid Polyisocyanurate
- Gypsum Board

3009 POST OAK BOULEVARD, SUITE 2000 | HOUSTON, TEXAS 77056  
www.alliantgroup.com | 800.564.4540



## Building 55: West Virginia State Office Complex

The projected annual energy cost for Logan State Office Bldg. was calculated to be \$34,231. Please note that the projected annual energy costs may vary from the building's actual energy costs due to the exclusion of process loads, exterior lighting, variations in occupancy, and variations in usage schedules among other variables.

Please be advised that the amount of the deduction that has been allocated to Massaro Corporation is \$98,658 for the building envelope, HVAC and hot water, and lighting systems in the building. For more information on the allocation of the section 179D deduction, please refer to the U.S. Tax Code § 179D and IRS Notice 2008-40. A copy of the notice can be found at [www.IRS.gov](http://www.IRS.gov)

If you have any questions, please do not hesitate to contact me.

Very truly yours,



Rizwan Virani  
Managing Director



[www.alliantgroup.com](http://www.alliantgroup.com) | 800.564.4540

## West Virginia Department of Transportation, Division of Highways projects

**Location:** Buckhannon & Moundsville, West Virginia

**Contact:** Mr. Joshua Smith, PE

Acting - Buildings and Grounds Program Manager  
WV Division of Highways, Maintenance Division  
1900 Kanawha Boulevard, East  
Building 5, Room 350  
Charleston, WV 25305  
304 / 887-2325

**Type of Project:** Renovations, Governmental - Engineering Services

**Project Description, Goals, and Objectives:** McKinley Architecture and Engineering has been honored to be a partner with the **West Virginia Department of Transportation, Division of Highways**, and we are now on our **2nd consecutive Statewide On-Call Agreement** with them. This open-ended contract is to provide both architectural/engineering consulting services (along with Construction Administration, and more) for the performance of various "tasks."

The **scope of services** generally consist of planning, studying, designing, renovating, repairing, conducting plan/specification reviews, preparing equipment specifications and related services for Department of Transportation facilities, including the site, utilities, buildings, and structures.

**For one task**, we designed the **HVAC replacement** to the existing 2-story, 8,820 square foot **WVDOH Equipment Division Facility in Buckhannon** (State Project N081-BLD/GR-0.00 00).

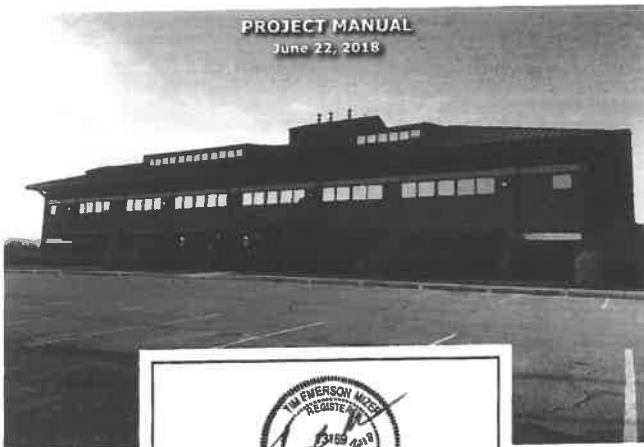
We designed a new Variable Refrigerant Flow (VRF) air handling unit with remote condensing

unit to condition the offices and conference room. A complete digital controls system was installed, with a desktop computer to allow authorized users access to the system.

**West Virginia Department of Transportation,  
Division of Highways**

**District 6 Headquarters  
HVAC Renovations  
Moundsville, West Virginia**

**PROJECT MANUAL  
June 22, 2018**



REGISTERED DESIGN CERTIFICATION

**McKINLEY**  
ARCHITECTURE + ENGINEERING

32 20th Street, The Maxwell Centre - Suite 100, Wheeling, West Virginia 26003 • 304-233-0140  
129 Summers Street - Suite 201, Charleston, West Virginia 25301 • 304-340-4267  
416 Longridge Drive, Pittsburgh, PA 15243 • 724-223-8250

**For another task**, we designed the **HVAC replacement** to the **WVDOH District 6 Headquarters Complex in Moundsville** (State Project N081-BLD/GR-0.00). The 31,000 SF building was conditioned with cooling only Air Handling Units and duct mounted heaters. That served full floors of office cubicles with no regard to proper zoning. As the conditioning units began to fail, it was determined that the complete system be replaced with a more economic system. McKinley Architecture and Engineering designed 2 Air Handling Units that provided ventilation air to VRF cassettes in the ceilings above the office areas. This solution provided individual control of all office spaces.

## West Virginia State Police - Open-End Contracts

**Location:** State-Wide, West Virginia

**Contact:** Major William Scott  
West Virginia State Police  
725 Jefferson Road  
South Charleston, WV 25309  
304 / 746-2124



**Type of Project:** New Construction, Additions/Renovations, Governmental - Full A/E Services

**Project Description, Goals, and Objectives:** For over 20 years, McKinley Architecture and Engineering has been honored to have been selected for **multiple consecutive West Virginia State Police open-ended contracts** for all **architectural and engineering services** throughout West Virginia.

We have completed numerous **renovations/repairs** as well as **additions** on police detachments throughout WV, such as in Clarksburg, Franklin, Lewisburg, Martinsburg, and Romney to name a few. The upgrades have included HVAC, roofs, floor tile to replace asbestos tile, electrical, site lighting, generators, doors, windows, interior finishes, furniture, building skin/facades, fire alarm and sprinkler systems, ADA compliance, and security systems, to name a few.

Moreover, we also have completed design services on multiple **new detachments** in Berkeley, Logan, Morgantown, Rainelle, and Wheeling to name a few. We have designed new shooting ranges with control towers, armament, and bunkers. We have also built new Multi-Purpose Buildings and training and assembly building. Various buildings include garages for their various-sized vehicles (some have multiple bays), many have barracks/living/sleeping quarters, some detachments have E911 Centers.

Our projects are built with **energy efficiency** in mind with the use of natural daylighting (such as daylight clearstories and self-supporting translucent skylights), occupancy sensors, photo sensors, kalwalls, and much more. Projects include **building safety and security, compliance with codes, as well as force, bullet, and blast protection, and much more.**



## **Building 34: West Virginia State Office Complex**

**Location:** Weirton, West Virginia

**Contact:** Mr. Andy Guz

304 / 541-3749

**Type of Project:** New Construction, Governmental Office Building - Full A/E Services

**Project Description, Goals, and Objectives:** To better serve the citizens of the Northern Panhandle of the State, the State of West Virginia established an **office building** in the City of Weirton. This **Weirton State Office Complex (also known as Building 34)** is a **\$4 million** state-of-the-art building that **houses offices for multiple state agencies**. This State Office Building was completed in 2006, and **accommodates the Division of Motor Vehicles, the Bureau of Employment Programs, the Department of Health and Human Resources, the Lottery Commission, Rehabilitation Services and the Work Force Investment Board**. This **two-story, 39,500 SF office building** was constructed with a structural steel frame and concrete foundations, cast concrete floors, precast concrete panel system, EPDM roof, two elevators, rooftop HVAC System, and building automation system. For parking, there was a large main lot and separate smaller lots to accommodate every client and/or building in the complex; this includes 14 handicapped parking spaces. Also included was site work. For security, the entire building has swipe-card access - both inside and outside, employee-only entrances, an x-ray machine, metal detector, bullet-proof glazing and tinted/reflective glazing, uninterruptible power supply, CCTV video monitoring and other surveillance equipment. There are various finishes and furnishing, such as desks, work stations, different floor materials (carpet, carpet tile, vinyl composite tile, unglazed ceramic tile, solid vinyl tile, and sealed concrete), casework, various door styles and swipe-access, bulletproof transaction windows, kitchen, laminated countertops, adjustable shelving, painted or glazed ceramic tile walls, and much more.

The first and second floor building **commons** spaces includes entry, security, lobby, restrooms, elevators, stairs, break room, conference room, and more. The **DMV** spaces on the first floor includes **work stations, offices, break room, a large waiting area, license center, driver's testing room, photo area, data, plate/storage room, employee-only entrances, and more**. The **Bureau of Employment Programs** spaces on the first floor includes **2 "open" work station rooms, manager offices, counselor office, work force training room, a large waiting room, hearing room/conference, server room, and storage**. The **Lottery** spaces on the first floor includes **an office, an "open" office room, conference, security room, supply room, a separate entrance/lobby, and data room**. The **Rehab** spaces on the first floor includes **7 offices, clerical, conference room, waiting room, an employee-only entrance, and more**. The **DHHR** spaces on the second floor includes **14 offices, an "open" office east and an "open" office west, work rooms, multiple swipe-card access doors, employee-only entrance, waiting room, reception, classroom/conference, regular conference room, resource room, interview room, family visitation room, server rooms, storage rooms, and more**.



## Wheeling Island Hotel • Casino • Racetrack projects

**Location:** Wheeling, West Virginia

**Contact:** Mr. Jeff Sellers

Director of Construction  
Delaware North Companies, Inc.  
40 Fountain Plaza  
Buffalo, NY 14201  
716 / 858-5518

**Type of Project:** New Constructions, Additions - Full A/E Services

**Project Description, Goals, and Objectives:** McKinley Architecture and Engineering is proud to have participated in creating this state of the art facility under an **On-Call / Open-Ended Contract**, as well as by teaming up with JCJ Architects for some of the major construction projects. Our involvement in these various projects throughout our **20+ years** of working here have included **architecture, engineering, interior design and construction administration**.

**McKinley's various projects in this multi-facility complex have included** ADA Compliance projects, Auger Piles, Boiler Relocation, Casino Lighting, Clubhouse Addition, Clubhouse Sprinkler Design, Electrical Power Upgrades, Entertainment Center, Exposition Hall Structural Analysis, Fairgrounds Remodeling and Renovations, Gaming And Entertainment Facility, Grandstand, HVAC, Island Room Lighting, Kennels, Kennels Site Studies, Kennels Sprint Track, Main Floor Table Gaming, Money Room Design, Money Room Renovations, New Paddock & Ginny Pit, Original Racetrack & Casino Expansion, Paddock - Entrance/Service Building, Phase II Site Presence, Parking Lot and Lighting, Race Track Study, Riverboat Study, RV Parking Study, Serving Line Restoration, Showroom Structural Evaluation, Simulcast - Electrical Evaluation, Site Development & Lighting, Starbucks, State Lottery Gaming & Office Design, Structural Analysis for Boilers, Track Lighting Redesign, UPS Capacity Study, Video Lottery Expansion II, Various Structural Elements, Wall Repairs, and dozens of more projects over the years.



## **"University Terrace" College Student Apartments Housing Complex**

**Location:** Fairmont, West Virginia

**Type of Project:** New Construction - Full A/E Services

**Project Description, Goals, and Objectives:** McKinley Architecture and Engineering led the team that designed the 3 building, \$30 million "University Terrace" College Student Apartments Housing Complex. Since the conditions and availability of student housing was of high importance to the University, this project was a high priority. This project kicked off with programming meetings, where we got the Owner's input to develop a priority list that was used as a guideline throughout the entire design phase. Defining this from the start was important, for it set a tone for the project, where every entity was on board from the beginning, and we helped transform FSU's ideas into realities. The project includes construction of a new housing complex on an existing parking lot, followed by the demolition of 4 current wood frame three-story apartment buildings which were beyond their lifespan, and new parking lots will be built on the site of the former apartment buildings. The demolition and construction was well-planned so that there was as little downtime as possible for available student housing accommodations. There were 216 beds in the existing college apartments; **we increased the number of beds to 345.** The ground-breaking was in April 2015 and the 3 buildings were all completed between July-October 2016. The structures consist of metal and steel frame buildings with CMU stair and elevators towers; two of these buildings are linked with a glass enclosed connector. With this new **105,706 SF** complex, the hope is that potential students will see this facility and will want to come to this University. The Apartments were designed to provide a welcoming, comfortable and home-like environment that will be conducive to the achievement of individual goals while also establishing a sense of community for student growth and interaction.

University Terrace provides **fully furnished living space to students; consisting of both apartment and suite-style living.** There are **103 units**, including 41 quads and 35 semi suites, 14 doubles, and 13 singles. These all have their own **bedroom, living, kitchen, and bathroom spaces** (but semi-suites have a shared bathroom). There are multiple lobbies, lounges, multi-purpose spaces, study halls, laundry rooms, elevators and stairwells, and more. There are staff spaces, a Residence Director office, and RD double apartment. The support spaces include rooms for plumbing/fire protection, electrical, data/telecom, housekeeping and maintenance storage. The buildings are located on the west, north and east sides of the site; creating a large courtyard for student functions, which includes landscaping and hardscaping along with a small amphitheater. The goal was to incorporate a space for students to congregate; to create a gathering space that creates a sense of community. There are many **energy-efficient design elements** throughout the apartments. For example, **we designed for this to be one of the first buildings in West Virginia with all LED interior and exterior lighting, and the bid came in for the same cost as conventional florescent lighting.** For interior design & FF&E; specific color and texture selections on the floors, walls, ceilings, and furnishings will enhance the lighting in the space,

will create a comfortable home-like atmosphere, and were made with a focus on incorporating a neutral toned color palette and fresh accents to offer interest and contrast while establishing a timeless base that will avoid becoming tired or dated. While LEED certification is not a project requirement, **all material and finish selections, in addition to meeting practical criteria, also consider sustainability aspects.**



## Cabela's Eastern Distribution Center

**Location:** Triadelphia, West Virginia

**Contact:** Mr. Rick Boccetti

Cabela's

1 Cabela's Drive

Sidney, Nebraska 69160

860 / 290-6251



**Type of Project:** New Construction, Commercial Distribution Warehouse - Full A/E Services

**Project Description, Goals, and Objectives:** Located at The Highlands off of Interstate 70 is a **\$40 million commercial warehouse/distribution center** that was built in **2 fast-tracked phases**. The building measures **1,200,000 square feet (600,000 SF for each of Phase I and Phase II)**, making it one of the largest buildings in West Virginia! Phase I included 32,000 SF of administrative offices and a large employee lunch room. Phase 2 included a 15,000 SF storage/maintenance shop and battery charging room. **The warehouse features 30-FT high-bay ceilings** to accommodate large automated storage/retrieval mezzanines and high-tech racking; the **building's floor** was designed to withstand continuous fork lift traffic. In order to facilitate construction during winter climate, a precast concrete wall panel system was designed for the building shell, and erected onto steel framing. The project was developed on a deep-fill, greenfield site with massive retaining walls, and new utilities.

We worked closely with the site engineers to coordinate exterior vehicle circulation and fire protection systems. This included particular attention to building and dock access for the 90 dock positions. The project also included a large parking and shipping area around the facility; 300 trailer parking spaces and 750 employee parking spaces. Security lighting was designed for these areas, with careful attention paid to illumination levels to permit camera operation in the parking lot areas.

This **1.2 million square foot** facility is a key link in Cabela's retail expansion plans, serving as their primary distribution center for the East Coast. In addition to keeping their retail stores fully stocked, it also benefits their direct business by reducing delivery times and lowering transportation costs to their catalog and Internet customers in the eastern United States. **From this, certain areas of the facility need to be in operation 24/7;** therefore, we designed an emergency backup generator and uninterruptible power supply (UPS) for the main data server room and for life safety systems. The generator is 500 kW; while the UPS is 65 kVA. This generator powers emergency lights, computer equipment, MIS power, MIS A/C, security and fire pump. Power is a key element in ensuring a fire pump works in an emergency situation; the fire pump is electric with standby power source connection to emergency generator.





## Millennium Centre Technology Park

**Location:** Triadelphia, West Virginia

**Contact:** Mr. Brian Joseph

CEO of Touchstone Research Laboratory

1142 Middle Creek Road

Triadelphia, WV 26059

304 / 547-5800

**Type of Project:** New Construction, Office Buildings, Laboratories, & Shops - Full A/E Services

**Project Description, Goals, and Objectives:** The Millennium Centre is a 20-acre technology park located along Interstate 70. McKinley Architecture and Engineering is proud to have participated in creating these new state of the art facilities with the Ohio Valley Industrial & Business Development Corporation, through the Design/Build process with Cattrell Companies, Inc. There are **various buildings and tenants** on the site, which include **multiple phases and expansions**. With our Clients being confident their businesses would "take off," but did not have the finances to build exactly what they were hoping for; **we designed these buildings in such a way that they all could easily expand in the future**. Therefore, many of these buildings have had **multiple additions**, and we successfully used a **phasing technique** to accomplish these expansions. For example, Phase II was a **new 15,000 SF masonry and frame building**, including complete electrical, plumbing, mechanical, fire protection, landscape, and paving work. Shortly after, a 6,620 SF addition to this building was completed, and included sitework, paving, foundations, slab on grade, superstructure, exterior closure, roofing, interior construction, mechanical, plumbing, and electrical.

**One of the main tenants** in this advanced industrial park is **Touchstone Research Laboratory**, who occupy **Building #4**, which is **42,875 square feet** and **\$2.2 million**. This is the largest privately owned commercial laboratory in the region. They have a **full blown research and development facility** with electron microscopes, chemistry laboratories, mechanical testing laboratories, finite element analysis, a design center, scientists and engineers of all types and much more. Touchstone also built

a **manufacturing plant** at the Millennium Centre. These are **Research & Development facilities** that adapt to their clients' needs – not built for narrow goals – but built to be innovative. In addition to its R&D services, Touchstone offers failure analysis and materials testing. The magazine *Advanced Materials & Processes* has called Touchstone, "One of the best equipped labs of its size in the country." Touchstone has various spin-out organizations on-site, such as Touchstone Advanced Composites, and Touchstone manufactures multiple products, such as CFOAM, MetPreg, ceramic matrix composites, and much more.

There were also **multiple specialized design elements throughout the buildings**. One building tenant had requested **20' - 35' roof clearances**; another requested **reinforced foundations to withstand 100,000 pounds compressive loads**. There are **multi-bay shipping docks**, specialty HVAC (especially laboratory exhaust, ventilation, dust collection, etc.) systems, floors and pits requirements for autoclaves and kilns, and "Raw Material Handling" rooms among these unique specifications. There is also materials characterization equipment, microbiological laboratory, hundreds of pieces of analytical equipment, machine shops, foundry, rolling mills, a composite facility, and much more.





## Orrick's Global Operations Center

**Location:** Wheeling, West Virginia

**Contact:** Mr. Will Turani

Orrick, Herrington & Sutcliffe LLP  
2121 Main Street  
Wheeling, WV 26003  
304 / 231-2629

**Type of Project:** Total Renovations - Full A/E Services

**Project Description, Goals, and Objectives:** This 100 year old warehouse was adaptive reused and **renovated** to create some of the most creative office space in the State. This **four-story, 88,000 SF** former historic warehouse is now a high tech "back office" for a major multinational company. The building is found in the **Wheeling Warehouse Historic District**, in the **National Register of Historic Places**. The greatest challenge was to convert the 100 year old once very industrial wood-framed building into a modern "Class A" office facility while retaining the historical heritage of the structure and district itself.

**This \$8 million dollar project won a West Virginia AIA Merit Award.**

Extensive restoration of the **exterior** was needed first. The entire exterior shell was designed and constructed in 6 months to attract a new tenant (it quickly became the home to the international law firm Orrick. This building soon became the company's Global Operations Center; no other firm has a 24/7 facility that rivals it. It provides the firm and its clients with a central business infrastructure that delivers comprehensive and reliable support services around the world, and around the clock). The exterior renovations included **reconstructing 120 dilapidated steel windows and glazing, extensive brick repointing, roof, a new public entrance, and parking lot.**

**The building was partially occupied while renovations continued.** Architecture & engineering design was completed in-house and included a completely new mechanical/HVAC system, structural, civil, electrical and fire suppression systems. On the **interior**, the original facility was almost void of the vertical circulation needed a modern day, team oriented work environment. An exposed steel atrium/elevator/stair core connects the four floors while introducing the industrial metals into the interior. Perforated columns, beams, and wire meshes allow **daylight** to filter in through usually solid steel construction. Two exposed, glass backed passenger elevators with stainless steel interior finishes now traverse the four floors allowing passengers a dynamic view through the atrium and walkways out to Main Street. The stainless steel and galvanized finishes of the exposed spiral **ductwork, electrical conduits and cable trays, sprinkler piping, and perforated metal light fixtures** further enhance the industrial concept of the design.



BEFORE and AFTER



BEFORE and AFTER

**McKINLEY**  
ARCHITECTURE + ENGINEERING

## Tyler County Judicial Annex

**Location:** Middlebourne, West Virginia

**Contact:** Mr. Eric Vincent

President

Tyler County Commission

121 Main Street

Middlebourne, WV 26149

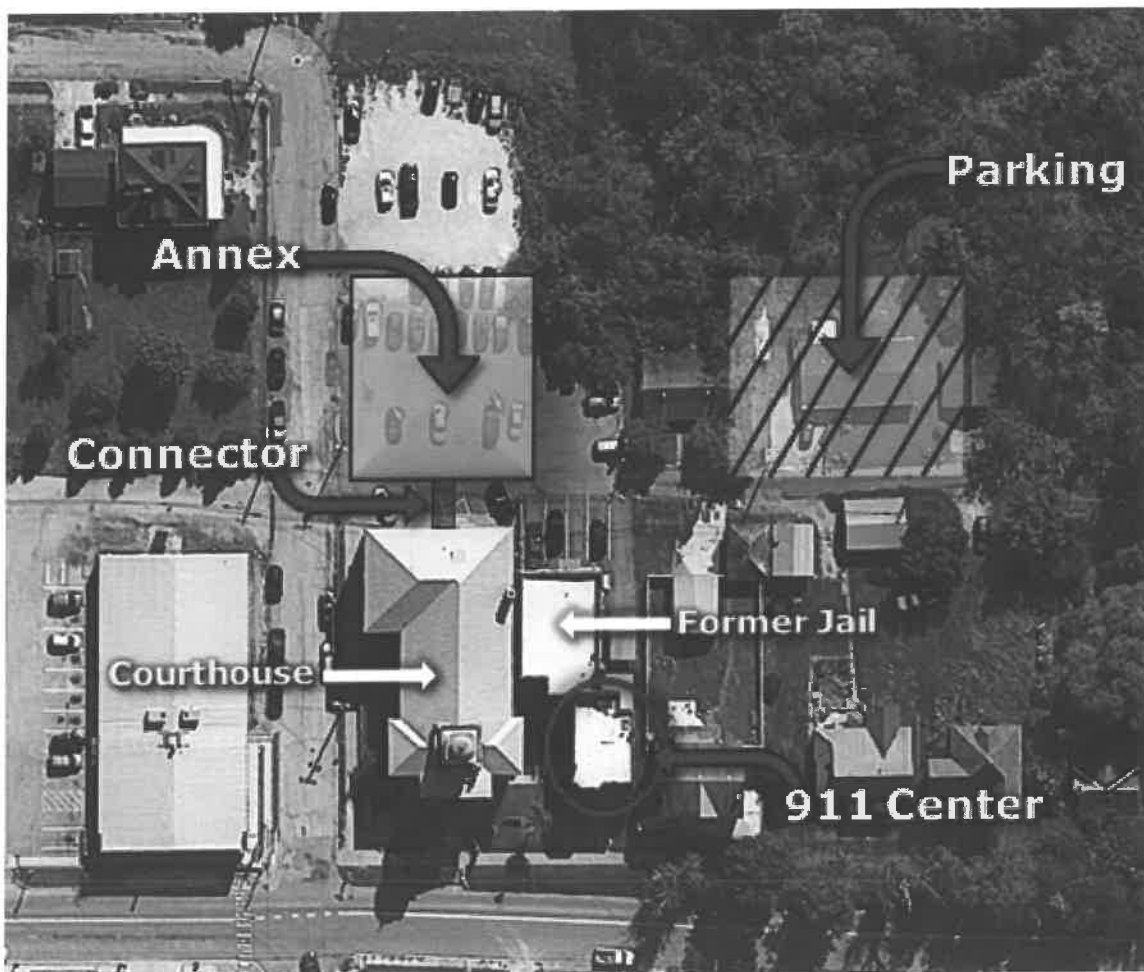
304 / 758-2102

**Type of Project:** New Construction / Building Addition - Full A/E Services

**Project Description, Goals, and Objectives:** McKinley Architecture and Engineering is leading the team that is working to provide the Tyler County Commission with architectural and engineering design services for renovations to the Tyler County Courthouse, and connected Sheriff's Office/911 building, and for the design of a new Judicial Annex. This project is estimated to be \$10 million.

The first phase of this project is the Judicial Annex. The original intention was for the proposed annex to be located directly behind existing courthouse, which is currently an asphalt parking lot; however, the site consists of fill that wasn't placed, and the addition would take all the courthouse parking. Therefore, we are currently working with the Commissioners to study other potential sites.

The departments/spaces to be in the new Judicial Annex facility will be the Magistrate Court/Offices, Prosecuting Attorney Offices, Family Court/Offices, Circuit Court/Office, Circuit Clerk offices, as well as support and storage spaces.



## **Panhandle Cleaning & Restoration - Storage Warehouse, Shop, Garages, & Office Building**

**Location:** Triadelphia, West Virginia

**Contact:** Mr. Bob Contraguero, Jr.

Panhandle Cleaning and Restoration

42 38th Street

Wheeling, WV 26003

304 / 232-2321

**Type of Project:** New Construction, Additions/Renovations - Full A/E Services

**Project Description, Goals, and Objectives:** Panhandle Cleaning & Restoration invested \$3.5 million in new prefabricated metal buildings. The Warehouse and Contents Processing Facility's exterior measures 130'x200', which includes a 6,400 SF 2-story mezzanine within the structure, providing 32,000 total warehouse square feet. **There are multiple bays and loading docks around this structure; the garages fit vehicles of various sizes.** The exterior walls are finished with masonry infill and metal siding. Interior space varies between 20' - 30' clear of the metal structure. The free-standing masonry area with a conventionally framed platform above it provides an additional storage area enabling the Owner to take advantage of the 2 ½ story clear height along one end of the warehouse. **An additional prefabricated 8,600 SF, 2-story office building is attached to the warehouse along the high side of the warehouse.** The office building also includes custom furnishings and finishes. Panhandle provides 24-hour emergency disaster clean-up services and therefore required some special electric, data, plumbing, and mechanical systems. The first floor of the mezzanine is the "Contents Processing Facility," is broken into multiple rooms, and many have specialized components and considerations we had to design, such as casework, workbenches, and specialty electric to name a few.



## State Fire Training Academy

**Location:** Jackson's Mill, West Virginia

**Contact:** Mr. Murrey Loflin

Director of Fire Extension

West Virginia University Fire Extension Services

2600 Old Mill Road

Weston, WV 26452

304 / 269-0872

**Type of Project:** New Construction, Governmental & Training - Full A/E Services

**Project Description, Goals, and Objectives:** The new \$4.5 million West Virginia State Fire Training Academy is located near the Jackson's Mill 4-H Campus in Lewis County, WV. Because of the proximity to this state historic site, the design directive given by the Owner was to blend into the rural community; the exterior brings to mind a barn set into the sloping terrain in an agricultural setting. A custom metal building skeleton with a board & batten metal skin was designed. The siding is representative of rural, vertical barn siding and serves as an integrating element throughout the large complex. The Users we have spoken to enjoy teaching in our facility. Contextually, it "fits" into the Jackson's Mill Campus and local agricultural community. The multi-use facility is ideal for community group meetings and other events. Every year, WVU Fire Service Extension uses this one-of-a-kind facility to train more than 2,000 volunteer and professional firefighters and first-responders from around the state and nation. The facility is also the new home for the high-tech Mobile Aircraft Rescue Fire Fighting Unit and the Mobile Fire Training Unit.

There are two major components to the 25,752 SF building; the first is the Classroom Wing. This wing is comprised of a multi-tiered 30-seat distance learning room, two other connected instructional classroom spaces that allow for a range of class sizes, 4 administrative offices, 6 cubicle offices, a conference room/library, and a lounge/dining area. The administrative area is private but easily accessible from all classrooms.

The second component, the 8,300 SF open bay training Arena, is an all-weather interior training facility. The scale of this structure, having a clear interior height greater than 30', allows the full extension of authentic fire training apparatus and vehicles for various types of hands-on programs. The large vehicle doors allow fire trucks and other props into the facility.



## Johnson Elementary School

**Location:** Bridgeport, West Virginia

**Contact:** Dr. Mark Manchin

Superintendent

Harrison County Schools

P.O. Box 1370

Clarksburg, WV 26302

304 / 326-7345

**Type of Project:** New Construction - Full A/E Services

**Project Description, Goals, and Objectives:** The new \$16.8 million Johnson Elementary School for Harrison County Schools is a 66,000 SF building that accommodates over 600 students. This was named NCWV Media's Public Project of the Year. We designed multiple "High Performance School" components, such as natural daylighting, good indoor air quality, and thermal control of each classroom. Johnson Elementary was designed as Collaborative for High Performance School (CHPS), and also received an ENERGY STAR Rating of 90, which means it is in the Top 10% of the most efficient Schools documented in the U.S. Environmental Protection Agency's ENERGY STAR program!

This school is located on a restricted and tight site on their existing campus, so the building, student drop-off road, bus loop, and parking all had to be planned carefully to fit the site. The school was also being built in a flood plain; after negotiations with FEMA the building was designed with the foundations raised about 7' to accommodate to bring the new school and above the flood plain. Because of this, a 2-story school was designed; classrooms for Pre-Kindergarten thru 1st grade are on the ground floor, and 2nd thru 5th grades on the second floor.

The building was placed on the site for optimum daylighting and the potential for future expansion. Insulated concrete forms were used for the exterior walls and the interior bearing walls. The exterior of the building is a brick veneer with fiber cement panels.

The school is comprised of 28 classrooms, special education, computer labs, music, media, large training room, administrative offices, health and nurses rooms, a large gymnasium, cafeteria with a stage, and kitchen. There are Promethean touchscreen interactive whiteboards in every classroom.



A unique feature is a timber pedestrian "covered bridge" that connects the two second floor classroom wings. The bridge is a wooden replica paying homage to covered bridges in West Virginia, especially the Simpson Creek covered bridge that sits just outside the city limits.



## Cameron Middle/High School

**Location:** Cameron, West Virginia

**Contact:** Mr. Jack Cain

Principal

Cameron Middle/High School

2012 Blue and Gold Road

Cameron, WV 26033

304 / 686-3336

**Type of Project:** New Construction, Educational including Training - Full A/E Services

**Project Description, Goals, and Objectives:** The **new \$32 million** Cameron High School was designed with potential LEED Certification, incorporating **sustainable, energy efficient "green" concepts** (*we are in the final submission stages of obtaining LEED Certification*). We made an extensive effort to make the school both economically feasible & environmental sensitive. **Sustainable design goals** of the Owner included reduced life cycle costs met through incorporation of LEED accreditation goals, the use of air terminal units, "chilled beams," desiccant wheel dehumidification, and much more. **To date the school has won multiple awards acknowledging achievements in taking a comprehensive approach to green schools, including: a 2013 Placemaker Award for Innovation from West Virginia GreenWorks; the 2014 Black Bear Award for the Highest Achievement in the West Virginia Sustainable Schools program; and selection as a 2014 U.S. Department of Education Green Ribbon School!**

The **130,000 SF facility** features Departmentalized classroom groupings teacher prep & meeting areas with access to a School wide WI-FI and Interactive "smart" boards in all classrooms. For the Vocational Technical Education programs, the Science Suite, labs, and shop are arranged with proximity to 16,500 SF Agricultural Science Suite for program integration and include a commercial grade, USDA approved Meat Lab for food processing, comprehensive learning, and collaboration with West Virginia University's College of Agriculture. Students in the school's programs use the labs to learn hand-on training. Upon completion of the program, students will have earned, saved, and productively invested enough money, and will have acquired the necessary knowledge, skills, and attitudes to enter and succeed in: production agriculture, off farm agriculture, college or technical school, and will have become productive citizens of the community. This training and education program includes seat work, viewing of videos, lecture and discussion sessions, smart board activities, meat processing, lab facilities, shop facilities, grounds maintenance, forestry, horticulture and hydroponics, wildlife management, and more.

The 3,000 SF shop areas and surrounding rooms for woodworking, metal working, and repairs meet OSHA standards and include oxy fuels welding, hand tool woodworking, power tool woodworking, working on small engines, painting, tool storage, agriculture equipment repair, lumber storage, metal storage, cutting and grinding, lathe activities, concrete and masonry work, electrical work, plumbing activities, construction, clean up, and haz mat storage.







## **Brooke Middle School**

**Location:** Wellsburg, West Virginia

**Contact:** Mr. Rob Robinson  
Director of Facilities  
Brooke County Schools  
1201 Pleasant Avenue  
Wellsburg, WV 26070  
304 / 737-3481

**Type of Project:** New Construction - Full A/E Services

**Project Description, Goals, and Objectives:** For the new **Brooke Middle School** in Wellsburg, WV, McKinley's role has included involvement with District administration and BOE, survey and geotechnical consultants, and financial consultants to assist in site selection, funding procurement, and assistance to District in solicitation and selection of construction manager for project. We completed preliminary planning stages to secure a successful bond vote and state funding requests; BMS is the major project within Brooke County Schools' **\$36 million District-Wide Construction Program** (funded with a local bond vote, and supplemented with funding from the SBA). We gathered data, analyzed, and performed services to help promote this **new BMS** as well as **278,670 SF of HVAC upgrades at Brooke High** (construction was recently completed for the **\$5+ million HVAC** project, which was designed with **energy efficiency** in mind). We created multiple renderings & floor plans, helped work on brochures and flyers to be distributed before the election, and provided evidence that this is a solid investment; these helped aid in the successful Bond passage.



Construction was recently completed on the **new \$30+ million, 115,000 SF Brooke Middle School** project, which replaces all of the county's middle schools (the existing schools were both over 85 years old, had asbestos, and were in need of major repairs), with a new combined facility. We assisted with site selection which resulted in a site adjacent to existing Brooke High on the same campus. Project was designed with building information modeling (BIM). The new school planning was developed for a design enrollment of 1,000 students in 5th-8th grades in a 2-story structure (grade 5 will occupy a separate wing on the 2nd floor). BMS will be equipped with dozens of classrooms, special education and related rooms, media center/library, collaborative learning & STEAM technology labs, multiple science labs, large cafeteria/dining area, kitchen, large gymnasium, all purpose gym/performance area that can be converted to extend the music room, and 21st-century infrastructure to enable technology instruction and application. The Collaborative Learning Spaces and music/band rooms have operable acoustical glass and electronically operable acoustic steel panel partition systems, to add flexibility, aesthetics, to maximize acoustics in the areas, as well as create sound separation for the adjacent rooms. **Safety features** include secured access points, individual lockdown zones, and GPG (glass-polycarbonate-glass) security windows to name a few. **There are multiple "High Performance School" components and healthy / sustainable "energy efficient" design elements incorporated throughout**, such as a VRF HVAC system with an anticipated cost reduction of 30%, this was the 1st school in WV with all LED interior and exterior lighting, and much more. **This project had a net negative amount in change orders!**





TERRADON Corporation completed site planning and site civil engineering for the 83,900 Square Feet Armed Forces Readiness Reserve Center in Eleanor, WV.

The site is home to stationed units: 111th Engineer Brigade (WVARNG) (the largest brigade in the WVARNG), Troop B, 1st Squadron, 150th Cavalry Regiment (WVARNG), 3664th Ordnance Company (WVARNG), and Detachment 3, Company D, 230th Brigade Support Battalion (WVARNG).

The WVARNG negotiated with the US Army Corps of Engineers for the site (with the maintenance center) totaling 43 acres at the base of the Winfield Locks and Dam site in Eleanor, WV. The building is located adjacent to the new Maintenance Facility on the site, with the main entrance facing east toward the main access to the site. The orientation of the building takes advantage of views of the wetland area and the Kanawha River. The Armory houses units of the state Army National Guard and one unit of the Navy.

**Project Owner**

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WVARNG

## **WVARNG Eleanor WV Maintenance Center**

*Eleanor, West Virginia*



TERRADON Corporation provided full service site civil engineering services for the design and completion of the WVARNG Eleanor WV Maintenance Center.

The Eleanor Maintenance Complex, in Eleanor, WV, is a 132,000 square foot state-of-the-art repair and maintenance facility for the West Virginia Army National Guard (WVARNG). The specially designed Army "Combined Logistic Support Facility" will house the Combined Support Maintenance Shop (DSMS), an Organizational Maintenance Shop (OMS) and United States Property and Fiscal Office (USPFO) parts and storage warehouse.

The facility provides a full range of maintenance support for all WVARNG military vehicles throughout the state. It includes 28 maintenance work bays with overhead bridge cranes, an engine rebuild shop, a body shop with blast and paint booths, a carpentry shop, a machine shop, a canvas shop, a small arms repair shop and an electrical communications repair shop. The facility also has specialized testing capabilities in the form of an engine transmission dynamometer.

Additionally, TERRADON provided services for the WVARNG Gate House and Tank Road at the Eleanor, WV site.

### **Project Owner**

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WVARNG



## Advanced Technology Centers

West Virginia



TERRADON issued site evaluation studies and site engineering phases of two Advanced Technology Center projects in the Cabell, Putnam, and Kanawha County region and in the Harrison, Marion and Mon County region. The intent of the site selection process was to identify multiple suitable site candidates where the Advanced Technology Centers could be located.

The Advanced Technology Centers were considered the main component of these projects. However, the sites were also evaluated on the opportunity they could provide for the possible future expansion of a Community and Technical College. The most suitable sites were selected out of the expansive pool of possible sites within the area. The candidate sites that were chosen were studied in detail and an intensive inventory and analysis phase was conducted to determine the most appropriate site location for the projects.

The inventory process consisted of gathering necessary information needed to evaluate each site based on a list of established criteria developed for this site selection process including visibility, site readiness, site size, and more. The list of possible sites was narrowed down to the ten best sites with the most potential for development.

TERRADON used prior knowledge of similar site selections to determine the criteria to develop for these site selections. The criteria database was compiled for each site by using various resources and implementing individual site visits with intensive data gathering.

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### Project Owner

WV Higher Education Policy  
Commission



TERRADON Corporation provided Environmental, Geotechnical and Survey services to the West Virginia Department of Administration for the State Office Building located in Fairmont, West Virginia.

TERRADON's Environmental team provided phase 1 and phase 2 Environmental site assessments (ESA) for the site. Phase 2 ESA consisted of soil and ground water sampling and pesticide wipe sampling. The team also conducted asbestos survey and lead-paint survey. For the project, TERRADON prepared quantities for bid documents and provided over sight for demolition and abandonment. TERRADON's Geotechnical experts conducted investigation of existing filled basements and foundation investigation and design of the Fairmont building site.

**Project Owner**

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WV Department of  
Administration



TERRADON Corporation provided engineering design services for the Arthur Weisberg Family Applied Engineering Complex (AEC), a 152,000 sqFt facility, located on Third Avenue. The state of the art facility houses six different academic and research programs and is one of Marshall University's newest facilities.

Marshall boasts the four story facility to be organized to promote collaboration between the university's colleges and research corporations. A central four-story atrium serves as a window into the building. The complex's scale and the materials of brick and cast stone are consistent with adjacent campus architecture.

TERRADON's site civil engineering team provided LEED expertise for the project. The project is pursuing LEED Silver certification via sustainable features as teaching tools. Stormwater collected from roofs will be used for teaching and research projects and will also be recycled for one of the restrooms in the building. A Green Roof above the Advanced Material and Testing laboratory will reduce the amount of stormwater discharged while providing an opportunity to study the ecological effects of stormwater and associated plantings.

The AEC facility is the first LEED building in the city of Huntington. The AEC facility was built with the intention of it being open and accessible to the public to demonstrate its concepts of sustainability that were incorporated early in the design of the project. The following are the concepts that Marshall University viewed as priority for achieving LEED Silver certification:

- Sustainable Sites
- Water Efficiency – Green Roof
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation and Design Process
- Regional Priority Credits

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### **Project Owner**

Marshall University



TERRADON Corporation provided services for the development of Tanyard Station, a 50-acre retail development in Barboursville, WV. The project allowed for 33 acres of 'pad ready' retail space. Currently 6 acres of retail space is built out and operational with brands such as Sheetz, Verizon, Aspen Dental, Longhorn and Aldi serving as anchors.

TERRADON provided services from the inception of the project including environmental assessments, survey, permitting, mitigation design and oversight, erosion and sediment control design, quality assurance and quality control, testing and engineering consulting. Upon completion, TERRADON provided as-built surveys of the site and elevation and geotechnical certification for each individual pad. TERRADON's services included typical and specialty inspections such as compaction, concrete placement, steel, utility installation and box culvert installation.

TERRADON designed a 958 linear foot box culvert to allow for Tanyard Branch to be filled and create retail space and parking above. The culvert was designed to pass the 100 year flood elevation of Tanyard Branch and provided capacity of the Mud River to surcharge back into the culvert and alleviate flooding within the village. The culvert can withstand 35 feet of fill material placed on top of it. The closure of Tanyard Branch brought opportunity for mitigation which was performed offsite. The mitigation not only fulfilled permit requirements, but allowed for improvements to the local park where it was performed.

The development of the project was required to mitigate for threatened and endangered species onsite. TERRADON utilized a subconsultant, Copperhead Environmental, to perform an acoustic bat survey and TERRADON performed a habitat assessment of the subject property. Both assessments were utilized to develop a plan to mitigate potential impacts to the habitats which included the planting of vegetation onsite to promote onsite habit as well as the placement of bat houses offsite.

## **PROJECT OWNER**

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Interstate Development



The Summit is a 10,600+ acre outdoor adventure center owned by the Boy Scouts of America. TERRADON performed site selection and site evaluation services. 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 worked with project owners to find the most feasible and economically beneficial site for the boy scout adventure site. The site selection in Fayette County, WV was chosen to compete with site selections across the United States. The competition was one of 28 site across 11 states.

TERRADON provided site prioritization and analysis to help project owners see the beneficial exponents to developing the outdoor adventure park in the mountains of West Virginia. TERRADON worked closely with state agencies during the site selection process to determine the best site development plans to economically benefit both the Boy Scouts of America as well as the state of West Virginia. The final design site was selected from scouring multi-acreage sites in different counties with specific elements considered including site feasibility, site readiness, budgeting exponents, and economic development. Prior to final selection, TERRADON's site was in the short list of three sites with two others in Virginia and Arkansas. The client was impressed with the quality and depth of our work that they hired TERRADON to do the bulk of the design work on site.

### **Project Owner**

Boy Scouts of America

### **Dunbar Sidewalk Improvements, Dunbar, WV**

TERRADON provided engineering services to the City of Dunbar, WV for the improvement of sidewalks throughout the city (from 14th Street to 16th Street). TERRADON provided surveying and mapping for the entire length of the project and designed preliminary design layouts. The project included 2.5 blocks total of sidewalk repairs and ADA upgrades.

### **Oak Hill Sidewalk Improvements, Oak Hill, WV**

TERRADON provided engineering services to the City of Oak Hill, WV for the improvement of sidewalks throughout the city. TERRADON provided surveying and mapping and design for the 4,300 LF length of the project and designed preliminary design layouts. The project also included a feasibility study for midblock crossings and the coordination of public meetings.

### **Grantsville Sidewalk Improvements, Grantsville, WV**

TERRADON provided engineering services to the City of Grantsville, WV for the improvement of sidewalks throughout the city. TERRADON provided surveying and mapping for the entire length of the project design. The project included five blocks of sidewalk improvements, rehabilitation, ADA compliance upgrades, driveway openings, and minor drainage repairs. Additionally, the design included period street lighting, park benches, trash receptacles, and street trees as budget allowed.

### **Mount Hope Sidewalk Improvements, Mount Hope, WV**

TERRADON provided engineering services to the town of Mount Hope, WV for the improvement of sidewalks throughout the town. TERRADON provided surveying and mapping for the entire length of the project design. The project included one block of sidewalk repairs, rehabilitation, ADA compliance upgrades, driveway openings, and minor drainage repairs. The design included the addition of two ADA parking spaces and period street lighting.

### **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 2 miles of trail along city citreets. TERRADON designed approximately 3 miles of new 10' wide trail through woods and school property. The project also 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.

### **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 WV DOT-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.



# State Capitol Dome Moisture Intrusion Repair Project



State of West Virginia, Kanawha County,  
WV

Stahl Sheaffer provided Metro Masonry and Pullman with pre-demolition survey documentation. Stahl Sheaffer collected nearly 2 billion data points to provide historically accurate rehabilitation data for use in future construction of this project. High-resolution 3D point cloud and 360-degree imagery was captured and processed of the inside of the West Virginia State Capital Dome. The scanning covered the entire circumference of the dome area which is approximately 230 feet. Scanning was performed utilizing a FARO Focus 330X HDR phase-based laser scanner on a high-resolution setting. Data collection consisted of high-resolution colorized point cloud data that will be used to document the precise elevations and extents of each unique plaster banding element with reference points from locations that will remain in place such that all components can be reinstalled in their existing location. The reference points consist of non-destructive mark, tags, stickers, and tape to ensure the points would last for the duration of the project. Location and radius of the existing walls and reference points were established so the walls can be replicated in their existing locations.



# STAHL SHEAFFER ENGINEERING

- **Owner:**  
American Refining Group
- **Services:**
  - Site Engineering
  - Structural Engineering
  - Construction Administration
- **Year Completed:**  
2017
- **Construction Cost:**  
\$2,000,000
- **Size:**  
7,500 SF

# American Refining Group Lab Addition



## American Refining Group Lab, Bradford, PA

Stahl Sheaffer Engineering was part of a Design-Build team in partnership for the approximately 7,500-sf lab addition.



The structure is a combination load bearing masonry structure (exterior walls) and steel frame (interior column line) supporting a traditional steel framed flat roof with metal deck and bar joists. A steel-framed exterior canopy bearing on steel columns created a secure location for exterior storage. The floor is slab-on-grade with standard shallow spread foundations. Slab-on-grade is designed to accommodate equipment and traffic for the processes planned within the space. Interior revisions to the existing facility included new wall openings for doors and ductwork, and the design of a jib crane supported on an existing elevated floor for material handling.



Stahl Sheaffer provided site and structural engineering for this project. Site amenities included an underground storage tank for waste materials from the laboratory testing processes, site paving, and vehicular routing including tanker trucks on the restricted site area. The site was designed to accommodate the owner's needs and processes. Stahl Sheaffer designed the building structure to accommodate the local environmental loadings, equipment and process loading, and user-induced loads.



- Owner:  
The Pennsylvania State University
- Services:
  - Structural Engineering
  - Site Engineering
  - Feasibility Study
- Construction Cost:  
\$2,000,000
- Completed:  
2016

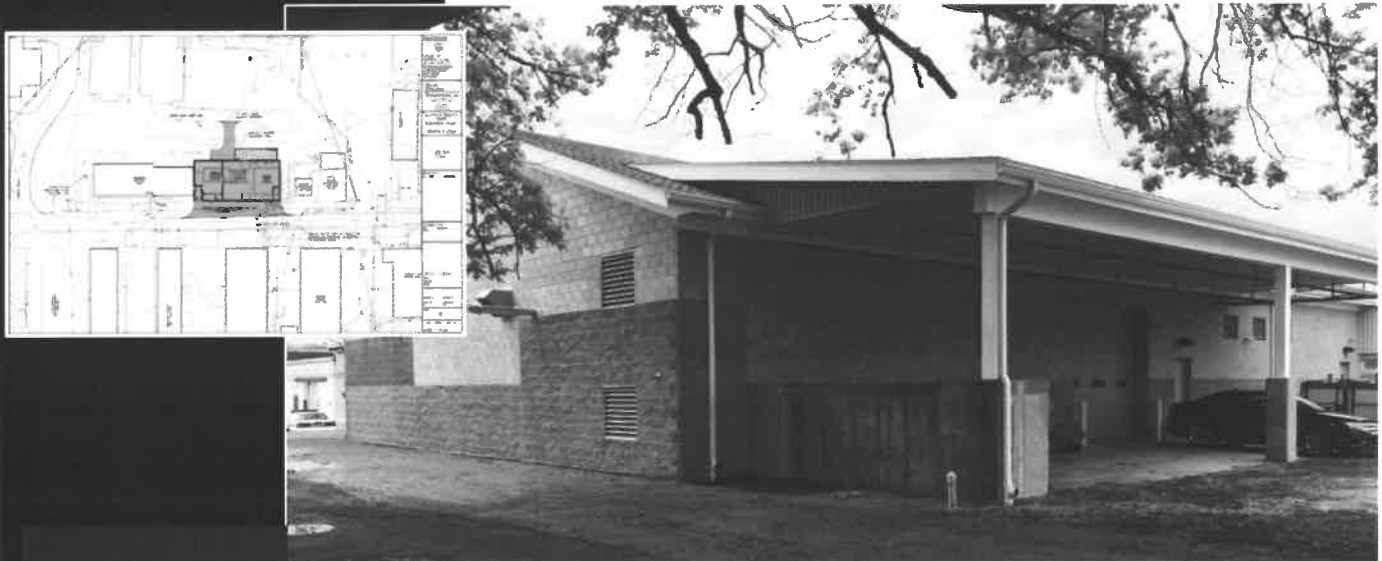
# Mushroom Research Center Expansion



## Penn State Mushroom Research Center, University Park, PA

Stahl Sheaffer conducted a feasibility study and analysis of the site proposed for the expansion of the Mushroom Research Center. The existing mushroom research and growing operations were originally conducted in two different locations, and Penn State wanted to combine the process in one facility. The analysis included site layout, access, utility connections, permitting requirements, and stormwater management.

The Mushroom Research Center is one of the few facilities in the world dedicated to mushroom research. It supports studies and applied research aimed at improving commercial mushroom production. Stahl Sheaffer site and structural engineers worked with the design team and the owner to coordinate the building design with equipment specific to the process of mushroom farming, including tunnels and bunkers with specialized growing conditions. The structural system used an innovative composite



- **Owner:**  
The Pennsylvania Turnpike Commission
- **Services:**
  - Structural Engineering
  - Site Engineering
  - Stormwater Management Design
- **Construction Cost:**  
\$17,000,000
- **Year Completed:**  
Design: 2019  
Construction: 2020 (anticipated)

masonry system with structural block, insulation, and thin veneer. Both wall and roof systems were selected based on durability and economy while maintaining a continuous thermal envelope. Stahl Sheaffer coordinated the location of the mechanical equipment, ductwork and fire-suppression system with the MEP contractor to fit within the roof truss profiles while supported by truss bottom chords.

*Expansion and renovations at Penn State's Mushroom Research Center are helping to ensure that the University's legacy in mushroom science and technology will endure into the future.*

<https://news.psu.edu/story/452356/2017/02/22/new-facility-spawns-enhancements-penn-state-mushroom-research>

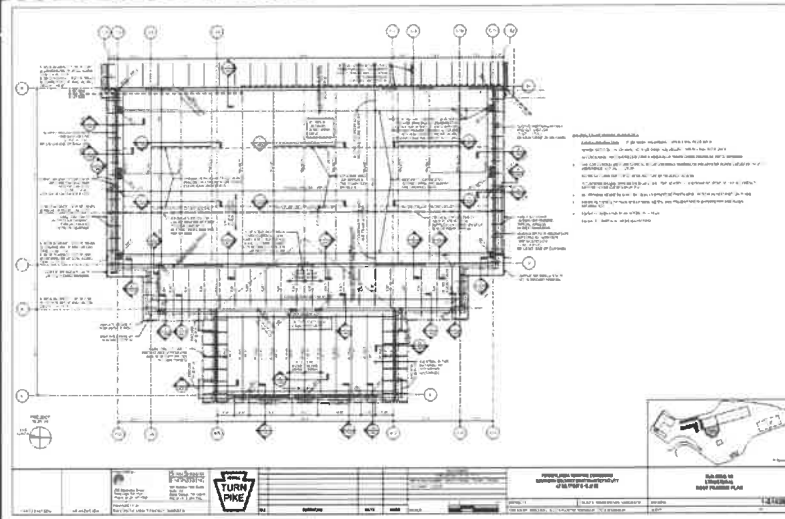
# New Maintenance Facility Design



## The Pennsylvania Turnpike Commission, South Fayette, PA

The Pennsylvania Turnpike Commission's new maintenance facility project included the design of all buildings and infrastructure necessary to construct a fully-functional, highly-efficient, and sustainable highway maintenance and vehicle maintenance facility. Stahl Sheaffer provided structural engineering services for a multi-building maintenance operation, including office, warehouse/storage, salt storage, emergency generator, and support facilities.

As part of a team, Stahl Sheaffer also managed the design effort for the site engineering, including the County and Township land development submissions. The project involved site layout, grading, stormwater management, landscaping, and utility service design for the nine-acre maintenance facility.



Work also included coordinating with the Pennsylvania Turnpike Commission to complete facility layout, grading, drainage design, utility connections, erosion control, and contract administration.





- Owner:  
The Pennsylvania State  
University
- Services:  
– Structural Engineering
- Construction Cost:  
\$9,000,000
- Year Completed  
2008

# Computer Building Expansion



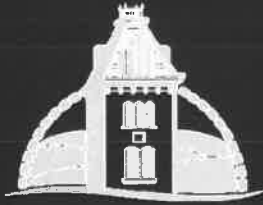
## The Pennsylvania State University, University Park, PA

Stahl Sheaffer Engineering served as the structural engineer for The Pennsylvania State University Office of Physical Plant's project to expand the Computer Building. The structural system included steel framing with composite decking and masonry shear walls where applicable. Special consideration was required around the existing foundations to avoid influencing or undermining the existing structure.

Stahl Sheaffer designed isolated foundations for the large emergency generators to reduce vibration transmission to computer servers and other IT equipment. Stepped footings were incorporated as necessary to coordinate with the variable depth existing foundations. A design to reinforce selected structural members in the existing building was also performed to support new rooftop mechanical equipment.







Juniata College  
PENNSYLVANIA  
• 1876 •

- **Owner:**  
Juniata College
- **Services:**
  - Structural Engineering
  - Construction Administration
- **Completed:**  
2017

# Ellis Hall Structural Design

## Juniata College, Huntingdon, PA

Stahl Sheaffer provided structural engineering and construction administration services for a two-story steel framed addition with an elevator to the entry of Ellis Hall. This facility houses several cafés, dining hall, ballroom, bookstore, broadcasting center, police department, student organizations, and various other student centers and departments.

The structural framing laterally braced the addition by tying into the existing steel framing of Ellis Hall as well as steel moment frames.



Before (left) & After  
(below) Photos of Ellis



- **Services:**  
Structural Engineering
- **Owner:**  
The Pennsylvania State University
- **Construction Cost:**  
\$9,000,000
- **Year Completed**  
2008

# Breazeale Facility Security Upgrades



The Penn State University, University Park, PA

Stahl Sheaffer designed a crash-rated security fence around the Breazeale Nuclear Facility and provided engineering for a secure guard facility, remotely operated access gates, alarm system, and safety bollards. This project was completed in compliance with Nuclear Regulatory Commission funding requirements.



# East Campus Steam Plant



The Pennsylvania State University,  
University Park, PA

- **Owner:**  
The Pennsylvania State University
- **Services:**
  - Structural Engineering
- **Year Completed:**  
Multi-phase project started in 2018. Ongoing.

Stahl Sheaffer performed 3D scanning and modeling on Penn State's East Campus Steam Plant (ECSP), including the interior, exterior, and roof of the facility, utilizing a FARO Focus 330X HDR phase-based laser scanner. The resulting 3D point clouds and 360° imagery were compiled into one dataset. Following unified point cloud compilation, the data was used to create a highly accurate 3D Building Information Model using Autodesk Revit of existing systems within the plant. The precision and accuracy of the scan and developed model were used simultaneously by our structural design staff to direct the placement of new support framing which was woven through the known obstructions to fit within open spaces where final construction tolerances were less than one inch in places. Using the accurate scan and model, a construction conflict was determined to be a result of a change made in the plant after design was complete, allowing a quick resolution to the conflict to be implemented keeping construction on schedule for a project which had a very short shut-down window to accommodate installation.



- **Owner:**  
Altoona Blair  
Development  
Corporation
- **Services:**  
– Structural Engineering
- **Completed:**  
2017



# Penn Building Renovation

Altoona Blair County Redevelopment



## Corporation, Altoona, PA

Stahl Sheaffer Engineering provided structural engineering services for the renovation of the Penn Building, constructed in 1922, to be commercially leased to The Pennsylvania State University. The basement of the structure extends outside of the footprint of the building above to the curb of the street. Steel framing supports cast-in-place concrete which forms the base for the sidewalk in front of the building. A large concrete beam supports the three-story façade wall above. Water infiltration led to severe corrosion of the steel framing as well as the reinforcing within the concrete beam.

The severity of corrosion was assessed, and a remediation plan was developed. New steel members were added to supplement the existing members which were corroded beyond repair and inaccessible in large part due to the construction detailing. The concrete beam reinforcing was cleaned and coated, and spalling concrete was patched with a repair mortar. Sequencing was provided to the contractor to ensure the integrity of the member was not jeopardized throughout the construction process. Reconfiguration of the basement space allowed the design team to locate a new bearing and footing directly below the deteriorated concrete beam to assure long-term stability of the exterior façade wall supported above the beam. Miscellaneous concrete defects throughout the slab were also identified for repair as part of the project.





## Recent Projects

**MONONGALIA COUNTY JUSTICE CENTER**  
**Morgantown, WV**  
**\$17.3 Million Addition/Renovation**



 Please note that all estimates are TECC Total Estimated Construction Cost Only and Do not include Design Fees



KDM Consultants, L.L.C.



## Recent Projects

**DELAWARE COUNTY COURTHOUSE**  
Delaware, Ohio

**\$39.3 Million New Courthouse & Parking Facility**



Please note that all estimates are TECC Total Estimated Construction Cost Only and Do not include Design Fees



KDM Consultants, L.L.C.



# Recent Projects

**CONCORD UNIVERSITY TOWER & DORM RENOVATIONS**  
**Athens, WV**  
**\$14.3 Million Interior & Exterior Renovations**



 Please note that all estimates are TECC Total Estimated Construction Cost Only and Do not include Design Fees






## Recent Projects

**LEWIS COUNTY JUDICIAL CENTER**  
**Weston, WV**  
**\$7.6 Million New Judicial Center**



 Please note that all estimates are TECC Total Estimated Construction Cost Only and Do not include Design Fees





Per your request in "General Terms and Conditions" Part 8, here you will find copies of our various Insurance Coverages:

<b>ACORD™</b>		<b>CERTIFICATE OF LIABILITY INSURANCE</b>		DATE (MM/DD/YYYY) <b>01/02/2020</b>			
THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.							
IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).							
PRODUCER <b>Paul Associates</b> 1311 Chapline Street P. O. Box 990 Wheeling, WV 26003-0123			CONTACT NAME: PHONE (AC, No, Ext): <b>304.233.3303</b> FAX (AC, No): <b>304.233.3333</b> E-MAIL ADDRESS: PRODUCER CUSTOMER ID #:				
INSURED <b>McKinley &amp; Associates Inc</b> See Below Additional Named Insured 32 - 20th Street Ste 100 Wheeling, WV 26003			INSURER(S) AFFORDING COVERAGE		NAIC #		
			INSURER A: <b>Cincinnati Insurance Co.</b>		<b>10677</b>		
			INSURER B: <b>Brickstreet Ins</b>		<b>Brick</b>		
			INSURER C:				
			INSURER D:				
			INSURER E:				
			INSURER F:				
<b>COVERAGES</b>		<b>CERTIFICATE NUMBER: 2019-2020 CERTIFICATES</b>		<b>REVISION NUMBER:</b>			
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.							
INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>GENERAL LIABILITY</b>			<b>EPP/EBA0146335</b>	<b>08/15/2019</b>	<b>06/15/2020</b>	EACH OCCURRENCE \$ <b>1,000,000</b> DAMAGE TO RENTED PREMISES (Ea occurrence) \$ <b>500,000</b> MED EXP (Any one person) \$ <b>10,000</b> PERSONAL & ADV INJURY \$ <b>1,000,000</b> GENERAL AGGREGATE \$ <b>2,000,000</b> PRODUCTS - COM/POP AGG \$ <b>2,000,000</b>
<b>A</b>	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONTRACTURAL LIAB						
	GEN'L AGGREGATE LIMIT APPLIES PER:						
	<input type="checkbox"/> POLICY	<input type="checkbox"/> PRO-JECT	<input type="checkbox"/> LOC				
<b>A</b>	<b>AUTOMOBILE LIABILITY</b>			<b>EPP/EBA0146335</b>	<b>06/15/2019</b>	<b>06/15/2020</b>	COMBINED SINGLE LIMIT (Ea accident) \$ <b>1,000,000</b> BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS						
<b>A</b>	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$			<b>EPP/EBA0146335</b>	<b>06/15/2019</b>	<b>06/15/2020</b>	EACH OCCURRENCE \$ <b>1,000,000</b> AGGREGATE \$ <b>1,000,000</b>
<b>B</b>	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	<input type="checkbox"/> Y/N	<input type="checkbox"/> N/A	<b>WCB1018014</b> <b>PA EL INCLUDED</b> <b>WV BROAD FROM EL</b>	<b>12/30/2019</b>	<b>12/30/2020</b>	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ <b>1,000,000</b> E.L. DISEASE - EA EMPLOYEE \$ <b>1,000,000</b> E.L. DISEASE - POLICY LIMIT \$ <b>1,000,000</b>
<b>B</b>	<b>BLANKET WAIVER OF SUBROGATION</b>			<b>WCB1018014</b>	<b>12/30/2019</b>	<b>12/30/2020</b>	<b>INCLUDED</b>
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required) <b>CERTIFICATE ISSUED AS PROOF OF INSURANCE</b> <b>MCKINLEY ARCHITECTURE AND ENGINEERING, MCKINLEY ARCHITECTURE AND ENGINEERING LLC</b> <b>MCKINLEY ARCHITECTURAL SERVICES, INC.</b> <b>WILLOW GLEN CAPITAL</b> <b>FORT HENRY LLC</b> <b>CERTIFICATE HOLDER</b>							
				<b>CANCELLATION</b>			
MCKINLEY & ASSOCIATES, INC. ATTN: LISA DICARLO 32 - 20TH STREET STE 100 WHEELING, WV 26003				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.			
				AUTHORIZED REPRESENTATIVE <i>Lisa C. Paul Jr 1/2/20 Jm</i>			
ACORD 25 (2009/09)		© 1988-2009 ACORD CORPORATION. All rights reserved.					
The ACORD name and logo are registered marks of ACORD							





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: 713623

Doc Description: EOI- Buckhannon Phase II Addition

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2020-04-13	2020-04-30 13:30:00	CEOI 0603 ADJ2000000009	1

**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:

\*000000206862  
 McKinley Architecture and Engineering  
 129 Summers Street - Suite 201  
 Charleston, West Virginia 25301  
 (304) 340-4267

**FOR INFORMATION CONTACT THE BUYER**

Tara Lyle  
 (304) 558-2544  
 tara.l.lyle@wv.gov

Signature X

FEIN # 55-0696478

DATE 4 May 2020

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

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



(Name, Title)

Ernest Dellatorre, President

(Printed Name and Title)

129 Summers Street - Suite 201, Charleston, WV 25301

(Address)

(304) 340-4267 x115 | (304) 233-4613

(Phone Number) / (Fax Number)

edellatorre@mckinleydelivers.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.

McKinley Architecture and Engineering

(Company)



(Authorized Signature) (Representative Name, Title)

Ernest Dellatorre, President

(Printed Name and Title of Authorized Representative)

4 May 2020

(Date)

(304) 340-4267 x115 | (304) 233-4613

(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: McKinley Architecture and Engineering

Authorized Signature: *David Calender* Date: 4 May 2020

State of West Virginia

County of Ohio, to-wit:

Taken, subscribed, and sworn to before me this 4 day of May, 2020.

My Commission expires 16 August, 2020.



NOTARY PUBLIC *Kathryn McKinley*  
Purchasing Affidavit (Revised 01/19/2018)



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: 713623

Doc Description: Addendum No. 1 - EOI - Buckhannon Phase II Addition

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2020-04-22	2020-05-05 13:30:00	CEOI 0603 ADJ2000000009	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:

\*000000206862  
 McKinley Architecture and Engineering  
 129 Summers Street - Suite 201  
 Charleston, West Virginia 25301  
 (304) 340-4267

**FOR INFORMATION CONTACT THE BUYER**

Tara Lyle  
 (304) 558-2544  
 tara.l.yle@wv.gov

Signature X

FEIN # 55-0696478

DATE 4 May 2020

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

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CEOI ADJ2000000009**

**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.

McKinley Architecture and Engineering

Company



Authorized Signature

4 May 2020

Date

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