



RECEIVED

2020 FEB -4 AM 9:25

WV PURCHASING
DIVISION

Expression of Interest
West Virginia – Army National Guard
Eleanor Readiness Center Renovation Design
Red House, WV
CEOI ADJ2000000002
February 6, 2020



Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

Table of Contents

A Letter from Our Owner

TAB 1:	Firm Qualifications Miller Engineering, Inc. Firm Profile Craig Miller, PE Travis Taylor, PE Joseph Machnik Eyad Alhalabi Jack Jamison Montum Architecture Firm Profile Tom Pritts, AIA Certifications and Degrees Applicable to This Project
TAB 2:	Project Organization Staffing Plan Organization Chart
TAB 3:	Experience South Middle School HVAC Building 22 HVAC Building 25 HVAC Piping Alderson Broaddus Withers Brandon Hall Pipestem McKeever Lodge HVAC Piping Morgantown High School Area 4 HVAC Camp Dawson FMS4 Fire Protection Similar Projects Budget Delivery History Similar Projects Deadline Delivery History References
TAB 4:	Methodology Project Approach & Methodology
TAB 5:	Project Forms Signed EOI Forms Purchasing Affidavit

The Miller Engineering Difference



We are very pleased to submit our response for the Eleanor Readiness Center Renovation Design project. We have elected to submit as prime consultant as our understanding from the Expression of Interest is that the renovations are focused on HVAC. MEI has operated in this role many times before, including on the recent Camp Dawson FMS 4 Fire Protection Project. While MEI's project portfolio includes many building systems, HVAC renovations constitute the majority of our work.

We're not your typical MEP firm; we ensure our designs meet very specific, time-tested criteria, including but not limited to being **constructible**, operable and maintainable. We want to set up our clients to be self-sufficient, but we work to be available every step of the way.

Most every HVAC renovation we do require a phased approach to keep the facility in operations. We routinely deliver phased renovations for educational, institutional, commercial, and government facilities. Most every project we do has a particular set of standards which we must apply, and this is no exception. We see our diversity of previous work as an advantage as we do not use "cookie cutter" design or presume we have all the answers when we start.

Our hands-on staff takes great pride in their construction and operations backgrounds, which help us visualize the project as it would be built instead of just lines on paper. We don't sit clients down and lecture to them about what they're going to get; we listen to them so we can strive to deliver exactly what they want and need. It costs too much time and money (for both our clients and us) to not deliver exceptional service every single time, and we work tirelessly to keep projects on time and on budget. We're proud to say that our change order percentage over the last 8 years is less than 0.1%, and that's not just a statistic; it's a proclamation of our commitment and determination to make sure things are done right the first time, every time.

Miller Engineering has completed several successful projects for the State of West Virginia in recent years. We have recently successfully delivered HVAC renovations in WV State Buildings 22 and 25. We have also performed HVAC renovations in several K-12 schools in Monongalia County. We are currently the MEP consultant on the Capital Complex Chiller Plant project, which will implement significant cost redundancy and decreased operating cost enhancements. Such projects involve detailed sequencing as work had to be performed in a manner to not disrupt student activities. While this project is HVAC focused, Architectural modifications may be required to complete the project. For this purpose, we have included Montum Architecture with our team. Both firms have extensive experience working together on many successful projects so the effort is seamless from your perspective. We have several projects in the Charleston area at this time and will be in the area on a regular basis for at least the next three years.

We encourage you to contact any of our references to gauge our level of commitment, not only through design but continuing through construction administration, and beyond the warranty period.

I would like to personally thank you for affording Miller Engineering the opportunity to propose on the Eleanor Readiness Center Renovation Design project and we look forward to the chance to discuss the project in an interview.

Best Regards and Good Luck on the Project,

A handwritten signature in blue ink, appearing to read 'Craig Miller', with a stylized flourish extending to the right.

Craig Miller, PE
President/Owner
Miller Engineering, Inc.



TAB 1 –FIRM QUALIFICATIONS





Firm Profile



MILLER ENGINEERING is a solely held (S) corporation owned by Craig Miller PE, President. The corporation maintains a Certificate of Authority with the WV State PE Board and has carried professional liability insurance since its inception. Neither the firm nor its professional engineers have ever faced disciplinary action in any form from the states in which they are registered.

Our engineered solutions involve a detailed assessment process: investigation, observation, communication with stakeholders, system analysis, building modeling and engagement from our entire team. We approach each and every project with this process and the guiding principle that buildings are designed to be livable and function in their intended purpose.



Over the past 14 years Miller Engineering, Inc. (MEI) has engineered solutions for over \$23.2M in MEP system upgrades, repairs and renovations for projects of all scopes and sizes, with clients ranging from private owners to local and state governments. With a strict attention to detail and commitment to delivering a job done well and done right the first time, every time, MEI has accumulated a change order percentage of less than 0.1% over the past 8 years.



Our team has unique skill-sets regarding engineered renovation solutions. Each member of the team has hands-on mechanical system experience including installation, construction, design and maintenance.

*Miller Engineering takes pride in being **different by design**, and that difference shines through in all phases of our work and continued relationships with our clients.*

- Experienced and Licensed Professional Engineers
- Quality, Value-Engineered Project Delivery
- Qualified Construction Representative on Staff
 - LEED-AP Certified
- Below Industry Change Order Status
- Building Information Modeling
- Emergency Facility Response



Engineering Design and Consultation

- Mechanical
- Electrical
- Plumbing
- HVAC Design
- Renovation
- New Construction
- Building Information Modeling

Aquatic Facility Design

- Public Pools & Areas
- ADA Compliance
- Indoor & Outdoor (air flow)
- Chlorination/Filtration

Construction Administration

- Maintenance/Facility Improvement Plans
- Contract Administration
- Code Observation

Communication System

- Intercomm & Public Address
- Voice/Data/CATV
- Urgent Response

Energy

- Power Supply (main & backup)
- Green & Renewable Consulting
- Systems Utilization & Upgrades
- Sustainable Solutions

Facility Utilization

- Systems Assessment & Solutions
- Adaptive Re-use
- Planning/Life-Cycle Control
- Engineered Replacement

Life Safety Inspection/Design

- Fire Protection & Alarm Systems
- Access Control
- Fire & Electrical Investigation

Industry Experience

- Education
- Local & State Government
- Commercial Development
- Healthcare



B. Craig Miller, PE

Craig founded Miller Engineering in 2003, and serves as President and Principal Engineer. He has more than 20 years experience in design, specification, operations and project management. During his employment with WVU, Craig was directly involved with approximately \$130 million in new capital construction. His experience with a wide range of projects including HVAC, electrical, plumbing, infrastructure upgrades, building automation, energy efficiency and maintenance/renovation, among others, allows him to serve in multiple capacities within a given project. Craig will serve as the "Relationship

Manager" for Miller Engineering as the main communication interface between the Owner, the design team, contractors and end users.

Project Role: Relationship Manager – Primary Point of Contact

- *Engineer in Responsible Charge*
- *Design and Project Management of Mechanical, Electrical, Plumbing Projects*
- *Concept and Construction Design*
- *Business Operations and Financial Management Oversight*
- *Quality Assurance and Control*

Professional Project Highlights

- Morgantown High School Area 4 HVAC Renovations
- WVU Life Sciences Building and Student Recreation Center – Owner's Engineer
- Hawks Nest/Twin Falls HVAC
- Mapletown High School HVAC Replacement Phase I & II
- Advanced Surgical Hospital
- Pipestem McKeever Lodge HVAC Piping Replacement
- Beech Fork State Park – MEP New Construction Design
- Cheat Lake Elementary & Middle School Renovations

Professional History

2003- Present	Miller Engineering, Inc.	President, Relationship Manager
2002-2003	Casto Technical Services	Existing Building Services Staff Engineer
2001-2002	Uniontown Hospital	Supervisor of Engineering
1995-2001	West Virginia University	Staff Engineer
1990-1995	BOPARC	Caretaker – Krepps Park
1983-1988	University of Charleston	Electrician/HVAC Mechanic

Education

1995	West Virginia University	BS- Mechanical Engineering
1988	University of Charleston	BA- Mass Communications

Licenses and Certifications

- Professional Engineer (West Virginia, Pennsylvania, Maryland, and Ohio)
- Licensed Master Plumber
- LEED-AP Certified



Travis Taylor, PE

Experience in project management facilitates Travis's ability to create and design constructible projects. Prior to joining the Miller Engineering team he was directly responsible for managing \$10 million in electrical construction budgets. His experiences encompass both new construction and renovation. Travis maintains professional competencies by attending seminars and continuing education classes. These include local ASHRAE classes in addition to classes on electrical systems, and also steam systems through Shippenburg Pump Company. As lead engineer he provides HVAC, mechanical, plumbing, and electrical design solutions and services for our clients. In addition, he is part of our team's complete assessment process in both planning and MEP design through construction administration.

Project Role: Lead MEP Engineer

- *Design of Mechanical, Electrical, and Plumbing Systems*
- *Building Information Modeling - Revit*
- *Constructible Materials Evaluation*
- *Site Evaluation and Mechanical System Review*
- *Submittal and RFP Review*
- *RFI Coordination, Review, and Response*
- *Construction Observation*

Professional Project Highlights

- Blackwater Falls Lodge Boiler Replacement
- MTEC Welding Shop
- Camp Dawson FMS4 Fire Protection
- WV State Building 22 2nd Floor Renovations
- WV State Building 25 HVAC Piping Replacement
- Morgantown High School Area 4 HVAC Renovation
- Bobtown Elementary School HVAC Upgrades
- Holly River State Park Primary Electric Service Replacements Phase I & II
- Pipestem Lodge McKeever Lodge HVAC Piping Replacement

Professional History

2011-Present	Miller Engineering, Inc.	Staff Engineer
2006-2011	Tri-County Electric, Co.	Project Manager
2006-2006	Schlumberger	Field Engineer Trainee - MWD

Education

2006 West Virginia University, BS – Mechanical Engineering

Licenses and Certifications

- Professional Engineer - State of West Virginia
- OSHA 10-hour Course: Construction Safety & Health



Joseph Machnik

Joe has experience with AutoCAD, MEP and Revit MEP. He provides design modeling, drafting and supervised design services and construction support for Miller Engineering.

Project Role: MEP Designer

- *Revit/CADD Coordination of New Construction and Renovation Designs*
- *Building Information Modeling Specialist*

Professional Project Highlights

- Bobtown Elementary HVAC
- WV State Building 25 HVAC Piping Replacement
- Blackwater Falls Boiler Replacement
- Suncrest Middle Gym HVAC
- North Elementary Gym HVAC
- Graftek Steam Systems Evaluations and Modifications
- WV State Building 25 HVAC Piping
- Pipestem Lodge HVAC Piping Replacement
- Westwood Middle Cooling Tower

Professional History

2010 – Present Miller Engineering, Inc. MEP Designer

Education

2008 Penn State – Fayette, AS - Building Engineering Systems Technology: *Building Environmental Systems Technology*

2007 Penn State – Fayette, AS - Building Engineering Systems Technology: *Architectural Engineering Technology*

Additional Training

2016 – Shippenburg Pump Company – Steam Systems Training



Eyad Alhalabi

Eyad joined Miller Engineering in June 2019. A recent graduate of West Virginia University, he has been eager to learn the means and methods of MEP consulting. Eyad assists the MEP design team with design calculations and is rapidly learning design software such as Autodesk REVIT. He is also learning construction administrations along with building codes and standards. Eyad is currently preparing to take the Fundamentals of Engineering exam.

Project Role: Junior Engineer

- *Design Calculations*
- *Drafting of MEP Systems*
- *Assist with Construction Administration*

Professional Project Highlights

- Morgantown ALC
- WVDA Ripley Warehouse Electrical Upgrades
- Huntington 8th & 10th Street Pump Stations
- Huntington Floodwall Pump Station Automation

Professional History

2019- Present Miller Engineering, Inc. Junior Engineer

Education

2019 West Virginia University, BS - Mechanical Engineering

Licenses and Certifications

- ASHRAE Student Member

Staff – Qualifications and Experience



Jack Jamison

Jack brings 20 years as an electrical/building inspector and over 25 years of experience in the commercial electrical construction industry. His knowledge and experience are valuable resources to Miller's complete assessment process.

Project Role: Master Code Official

- *Facility Review, Code Research, Field Observations, Issue Resolutions, and Project Evaluation*

Professional History

2010- Present	Miller Engineering, Inc.	Code and Construction Specialist
1999-2010	Megco Inspections	Chief Inspector
1972-1998	Jamison Electrical Construction	Master Electrician

Education

1971 Fairmont State College, BS-Engineering Technology-Electronics

Licenses and Certifications

- Master Code Professional, IAEI Master Electrical Inspector, Class C Electrical Inspector – WV, PA, MD, & OH
- ICC Commercial Building, Building Plans, Commercial Plumbing, Residential Energy, and Accessibility Inspector/Examiner
- WV Master Electricians License
- NCPCCI-2B, 2C, 4B, 4C: Electrical & Mechanical General/Plan Review
- OSHA 30 Hour Course: General Industry
- NFPA Code Making Panel 14 – NEC 2014 Edition



Montum Architecture

Montum Architecture, LLC was founded in 2017 to provide architectural design services to clients in West Virginia and western Maryland. Staff includes one licensed architect performing all tasks and duties. This ensures the utmost coordination of building plans and specifications with minimal potential for miscommunication.

Legal Organization

Montum Architecture is a Limited Liability Corporation initially filed in the State of West Virginia. The company is also registered in the State of Maryland as a foreign LCC.

Communication

Tom Pritts will be the primary point of contact for Montum's architectural services. Montum will manage communications with sub-consultants on this project.

Project Budget

Previous work experience has shown a consistent +/-2% bid-to-budget ratio.

Project Schedule

Montum will monitor and adjust the design tasks in order to complete the design work on the established timetables. They will also work diligently during project construction to maintain the contractual constraints placed as part of the contractor's bid.

Design Software

Montum utilizes Autodesk Revit for all design projects incorporating three-dimensional modeling and parametric reporting.



Thomas Pritts, AIA, LEED-AP, CSI-CCS

Tom founded Montum Architecture in 2017. He has more than 15 years experience in design, specification, and project management. During his former employment, Tom has designed and managed dozens of built projects. His experience encompasses a wide range of projects including K-12 and higher education facilities, financial Institutions, emergency services buildings, and automotive dealerships. A native of Mineral County, Tom is member of the West Virginia Chapter of American Institute of Architects and was involved in the establishment of the US Green Building Council's West Virginia chapter. He is highly skilled in the design of complex building systems, technical construction detailing and specifying, and construction contract administration. These skills were critical in the development and maintaining of many multi-year, multi-project relationships with Clients in his previous employment.

Project Role: Relationship Manager – Primary Point of Contact

- Principal in Charge
- Design and Project Management
- Concept and Construction Design
- Quality Assurance and Control

Professional History

2017- Present	Montum Architecture	Architect
2004-2017	Alpha Associates	Associate and Architect
2003	Marshall Craft Associates	Architectural Intern

Education

2004	Virginia Tech	Bachelors of Architecture
------	---------------	---------------------------

Licenses and Certifications

- Licensed Architect (West Virginia, Maryland)
- NCARB Certificate
- Construction Specifier Institute – Certified Construction Specifier
- LEED-AP Certified
- Part 107 Remote Pilot
- 30-hour OSHA Card

Associations and Memberships

- American Institute of Architects
- Mineral County Chamber of Commerce – 1st Vice President

Professional Project Highlights

- Potomac State College – Bachelor of Nursing Renovation
- Wyoming East High School HVAC Renovation – Wyoming County Schools, WV
- Mountainview and MTEC HVAC Renovation – Monongalia County Schools, WV
- Berkeley Springs State Park – Pool Bathhouse Roof Replacement
- Berkeley Springs State Park – Old Roman Bath Renovation
- Blackwater Falls State Park – Boiler Room Renovation
- Our Lady of the Mountains Parish – Bathroom Renovation
- Mountain View Assembly of God – Rec Hall Ceiling Design

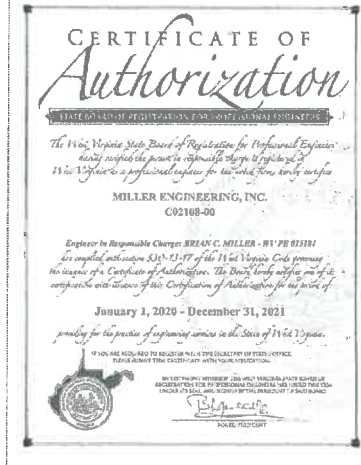
Professional Project Highlights (former employment built projects)

Montum



- Potomac State College – ADA Connector Building, Church-McKee Plaza, Shipper Library Façade
- WVU Engineering Sciences Building – East Wing Addition, 10th Floor Fit-Out, Basement Renovation
- WVU Engineering Research Building – G07 & G08 Renovation
- WVU Equine Education Center
- WVU College of Physical Activities and Sports Sciences/ Student Health Center
- WVU Center for Alternative Fuel Engines and Emissions
- WVU Colson Hall Water Infiltration Repairs
- WVU Mountainlair Water Infiltration Repairs
- WVU Chemistry Research Laboratories Fit-Out
- WVU Creative Arts Center Wheelchair Lift
- Alderson Broaddus University – Pyles Arena Deck Replacement
- Glenville State College – Morris Stadium Skybox
- Washington High School, Jefferson County Schools, WV
- Pineville Elementary School, Wyoming County Schools, WV
- Huff Consolidated School, Wyoming County Schools, WV
- Aurora School Addition, Preston County Schools, WV
- Riverview High Field House Design-Build, McDowell County Schools, WV
- Safe School Entries, Monongalia County Schools, WV
- Morgantown High Elevator, Monongalia County Schools, WV
- 2010 Comprehensive Education Facilities Plan- Monongalia County Schools, Wyoming County Schools
- Clear Mountain Bank Branches, Oakland, MD - Reedsville, WV - Kroger-Sabraton, WV
- Grant County Bank, Petersburg, WV
- Fairmont Federal Credit Union, Bridgeport, WV
- Freedom Ford, Kia, and Volkswagen Automotive Dealerships, Morgantown and Clarksburg, WV
- Jenkins Subaru Addition, Bridgeport, WV
- Elkins Fordland Renovation - Elkins Chrysler Dealership, Elkins, WV
- Harry Green Nissan Design-Build, Clarksburg, WV
- Cool Green Automotive Addition and Renovation, Shepherdstown, WV
- Veteran's Affairs – OI&T Office Fit-Out, Shepherdstown, WV
- OPM, Eastern Management Development Center Addition, Shepherdstown, WV
- National Energy Technology Laboratory – Building B-8 Roof Replacement, Morgantown, WV
- US Coast Guard – Conference Room Renovation, Martinsburg, WV
- Eastern Panhandle Transit Authority Addition, Martinsburg, WV
- Cacapon State Park – Old Inn HVAC and Interior Renovation
- WV National Guard - Armory Office Fit-out, Parkersburg, WV
- South Berkeley Fire Station, Inwood, WV
- Jefferson County Emergency Services Agency – New Headquarters
- Berkeley County Ambulance Authority – South Station Renovation and Addition
- Poolhouse Renovation, McMechen, WV
- Community Center, Ridgeley, WV
- Wastewater Treatment Plant Renovations, Martinsburg, WV
- Public Works Building, Fairmont, WV
- Oatesdale Park Little League Fields, Martinsburg, WV
- St. Luke Canopy Replacement, Morgantown, WV
- Freshwater Institute – Aquaculture Building, Shepherdstown, WV
- Clarion Hotel Renovation, Shepherdstown, WV
- Shenandoah Village Apartments – Façade and Deck Replacement, Martinsburg, WV
- Regional Eye Associates/ Surgical Eye Center, Morgantown, WV
- Bavarian Inn – Infinity Pool/ Pool Bar, Shepherdstown, WV

Staff – Proposed Staffing Plan

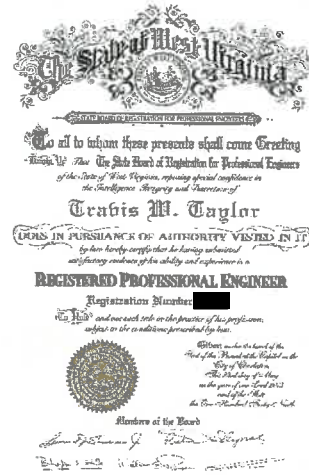


West Virginia State Board of Registration
for Professional Engineers

BRIAN C. MILLER
WV [REDACTED]

This is to certify that the above named PROFESSIONAL ENGINEER has met the requirements of the law, is duly registered and is entitled to practice engineering in the State of West Virginia.

EXPIRES December 31, 2020



West Virginia State Board of Registration
for Professional Engineers

TRAVIS W. TAYLOR
WV [REDACTED]

This is to certify that the above named PROFESSIONAL ENGINEER has met the requirements of the law, is duly registered and is entitled to practice engineering in the State of West Virginia.

EXPIRES December 31, 2020





TAB 2 – PROJECT ORGANIZATON



Staff – Proposed Staffing Plan

Team Leader/ Primary Point of Contact

Craig Miller, PE

Engineer in Responsible Charge

Craig Miller, PE

Electrical Code Specialist

Jack Jamison

Lead MEP Engineer

Travis Taylor, PE

Designer / BIM Coordinator

Joseph Machnik

Junior Engineer

Eyad Alhalabi

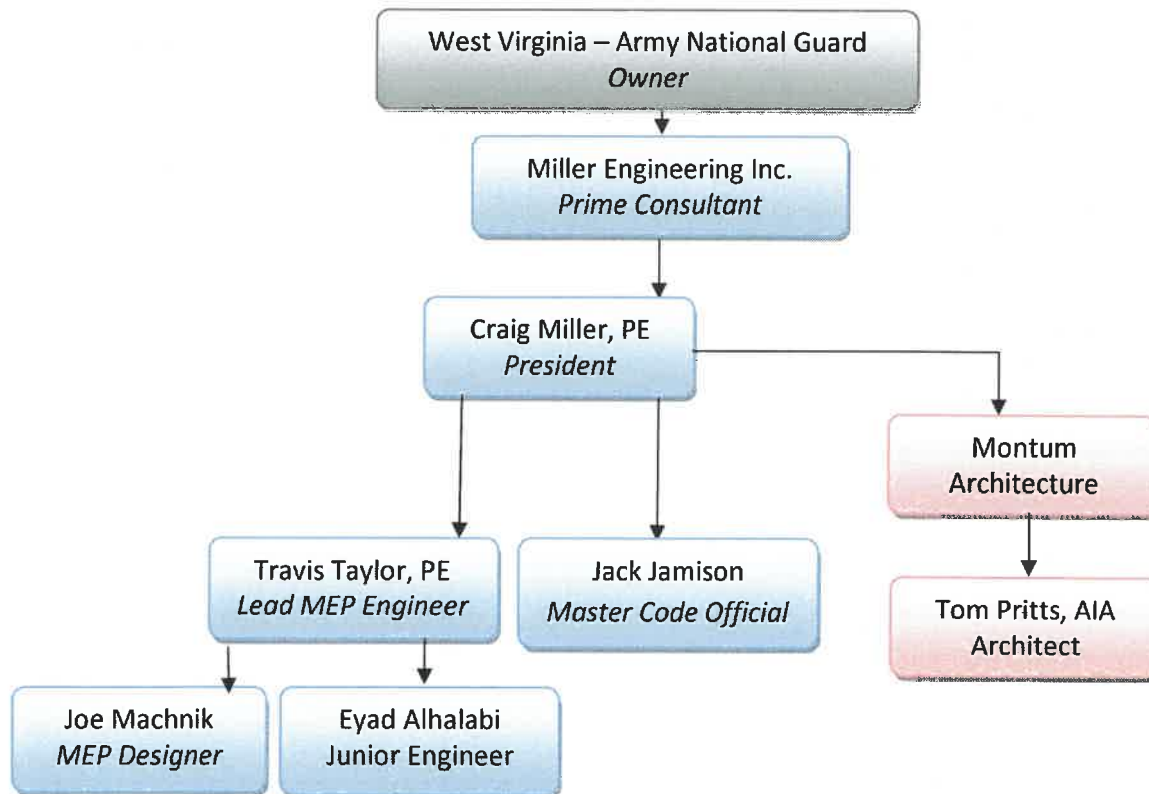
Master Code Specialist

Jack Jamison

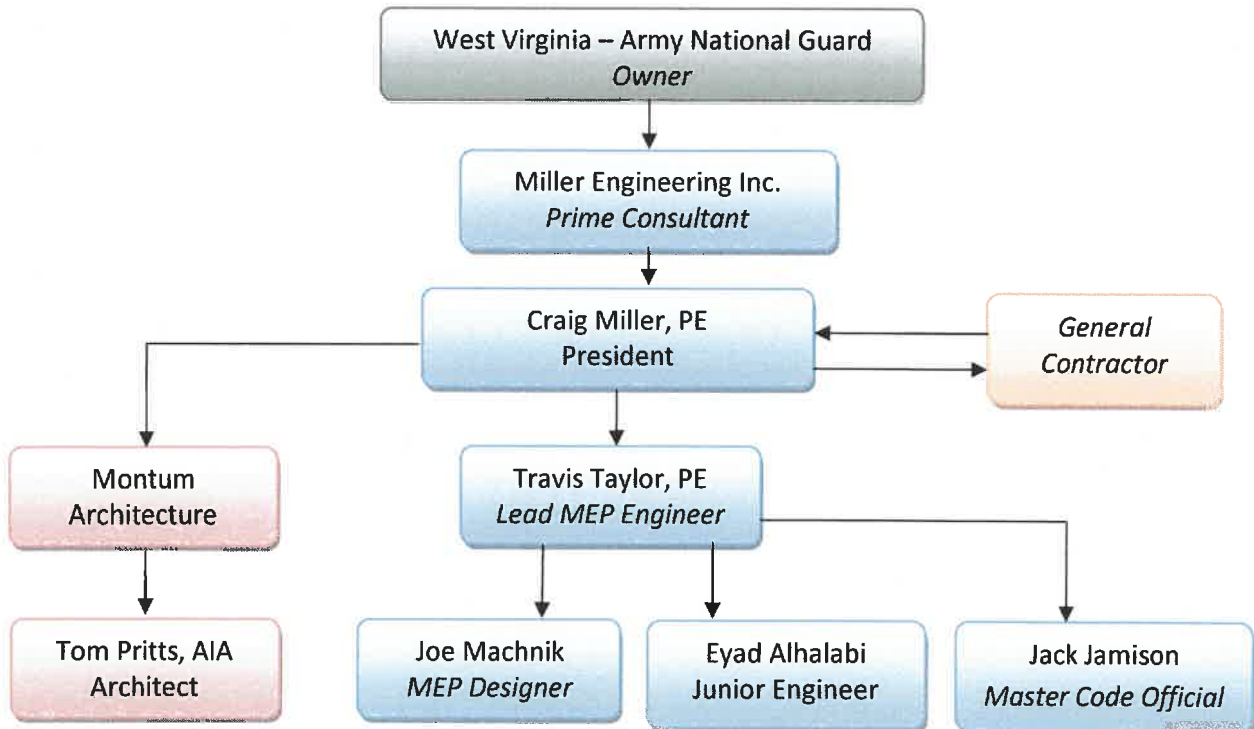
Architectural Support (Montum)

Tom Pritts, AIA

Organization Chart – Design



Organization Chart – Construction



Descriptions of Past Projects Completed – MEP

South Middle School HVAC Renovations

Services Provided:

- Mechanical
- Electrical
- Plumbing
- Fire Alarm

Contract Amount: \$1.45M
Facility Area: 111,800 ft²
Owner: Monongalia County Board of Education



PROJECT GOALS: Improve air quality and temperature controls. Limit school disruptions.

MEI designed retrofits to existing HVAC equipment which will allow the system to perform correctly. The project was detailed in phasing to permit some work to be performed during the school year during breaks and holidays to keep the school in operation.

South Middle School was served by a single DX AHU with various terminal devices such as VAV and self-piloted boxes. The school has been suffering from poor air quality and temperature control issues. Additionally, the condensing unit had failed. MEI designed a rebuild of the AHU; replacing the DX coils with HW and CW coils. The two large supply fans were replaced using a fan wall system which allowed the fans to operate at max output and minimize noise and vibration issues which plagued the old sled mounted fans. A new boiler serves the hot water coil and two chillers were installed with piping on the roof to serve the AHU cooling coil. The air terminal devices will be rebuilt and retrofitted to provide better control. The construction is completed with final closeout activities to be completed in the immediate future..

Project Contact:
Robert Ashcraft
Monongalia County Facilities
Phone: (304) 291-9210

Project Experience: HVAC Upgrade

Building 22 2nd Floor Upgrades

Charleston, WV

Services Provided:

- Mechanical
- Electric
- Telecommunications
- Construction Administration

Renovation Area: 7,400 sq ft

Contract Amount: \$398k

**Owner: State of West Virginia –
General Services Division**



West Virginia State Building 22 required renovations to the 2nd floor, which houses the state tax office. New mail processing equipment which have cooling, power, and data requirements were purchased by the state and the floor plan needed modifications. This building is an extremely high secure area. It houses the tax and revenue department for the State of WV. Approximately 2.5 million dollars is processed through this building daily.

Miller Engineering, along with Montum Architecture designed the renovations to the 2nd floor to accommodate the changes needed. The existing space was served by a fan powered VAV AHU. The existing air distribution was modified to meet the requirements of the new floor plan. The processing room and server rooms, which require year round cooling, are being served with computer-room air conditioning (CRAC) units.

The revised floor plan called for modifications to the power and telecommunications layouts for the integrated furniture systems. The grounding and bonding systems for the server room were upgraded as well. This project was completed in April, 2018.

Project Contact:

*David Parsons, Operations and
Maintenance Manager
State Capitol, Room E-119
(304) 957-7122*

Project Experience: HVAC Upgrade

West Virginia State Building 25

Parkersburg, WV

Services Provided:

- Mechanical Piping
- Electric
- Construction Administration

Estimated Budget: \$843k

Facility Area: 58,500 ft²

**Owner: State of West Virginia –
General Services Division**



The PVC piping system at Building 25 had a history of leaking, along with smaller piping sagging over time and breaking, prompting the owner to replace the entire system. The building was a logistic challenge to design due to offset multi-level mezzanines, resulting in low deck-to-deck heights in the lower levels. A new, rolled-groove piping system was installed, including a new cooling tower and supporting structure, and connected to the original boilers. To eliminate the problems associated with manganese, which forms solids and clogs piping, the system was converted from water to propylene glycol with the flow rates adjusted to accommodate the change. The water source heat pumps which serve the building were flushed and cleaned to prevent contamination of the new water. MEI designed a phased approach to accomplish the piping, which was adjusted in consultation with the owner and contractor during construction to minimize the impact on the building occupants, who remained in the building during the entire construction period. MEI worked on an almost daily basis with the contractor to accomplish the re-piping of the building, providing support and real-time answers to questions and to work around challenges.

Project Contact:

*David Parsons, Operations and
Maintenance Manager
State Capitol, Room E-119
(304) 957-7122*

Descriptions of Past Projects Completed – HVAC, Electric

Withers Brandon Hall

Phillippi, WV

Services Provided:

- Electrical
- HVAC

MEP Budget: \$700k

Facility Area: 31,800 ft²

Owner: Alderson Broaddus University

Status: Completed



As part of renovations to Withers Brandon Hall at Alderson Broaddus University, MEI was brought in to evaluate and design upgrades to the HVAC system. The existing chiller and piping insulation had failed. The existing system was a two-pipe system with chiller and boilers serving fan coil units. MEI proposed to re-use the piping and replace the fan coil units with water source heat pumps (WSHP). This allows the existing piping to be re-used and piping insulation would not have to be replaced. The chiller will be replaced with a fluid cooler located outside the building. The three non-condensing boilers will be replaced with a much more efficient modulating condensing "double stack" boiler. The ventilation units are located in the unconditioned attic space and are difficult to perform maintenance on. New ducted heat pumps tied to energy recovery ventilators will tie into the existing fresh air duct to provide ventilation and relief air. The design limits the amount of modifications outside of the mechanical rooms which will aid with the compressed construction schedule. The project was completed in October 2019.

Project Contact:
David Snider, AIA
Omni Associates, Inc
(304) 367-1417

Descriptions of Past Projects Completed – HVAC Piping

Pipestem McKeever Lodge

Pipestem, WV

Services Provided:

- HVAC
- Plumbing
- Electrical
- Accommodation of Existing Systems

Estimated Budget: \$1.7M

Facility Area: 63,000 ft²

Owner: West Virginia Division of Natural Resources



The original HVAC piping at McKeever Lodge had exceeded its lifespan and had been suffering from corrosion leading to multiple leaks, including one causing an electrical service outage. Miller Engineering was hired to investigate the existing piping, discovering all of the some 4,000 linear feet of piping required replacement. As this lodge is regularly occupied for larger conferences, the project had to be phased to minimize the amount of guest rooms taken out of service at one time. MEI also designed provisions to interconnect the lodge's two separate boiler/chiller plants so one plant could operate the entire lodge at a partial capacity while the other plant was replaced and re-piped. This interconnect also allows the lodge to operate in the event of a boiler or chiller outage.

Power was provided to new equipment, and motor control centers were added to control the building loop pumps. A new building controls system was installed to allow the plants to run at optimum efficiency while meeting the lodges heating and cooling needs.

Project Contact:
Carolyn Mansberger, Project Manager
State Parks Section
(304) 558-2764

Descriptions of Past Projects Completed – MEP

Morgantown High School Boiler Replacement/ Area 4 HVAC Renovation

Services Provided:

- Mechanical
- Electrical
- Plumbing
- Fire Alarm

Estimated Budget: \$1.0M
Contract Amount: \$1.038M
Owner: Monongalia County Board of Education
Status: Complete



*Project Contact:
 Robert Ashcraft
 Monongalia County Facilities
 Phone: (304) 291-9210*

Morgantown High school, like others throughout the state, has seen many changes through the years. Unfortunately the steam boiler plant remained in operation but with little maintenance for a number of years. The 40 year old boilers had exceeded their operational life and were experiencing reliability issues. MEI Evaluated the boilers and the associated 80 year old steam systems, recommending their replacement. Steam heating control was a significant issue.

Previous projects installed split DX refrigerant based systems in several classrooms within the science and technology wing. These units were obsolete and required replacement with a more reliable system, which can meet current ventilation standards. Additionally, there were 3 classrooms, which were heating only with little or no control, that required addition to the overall solution for this section of the building. Based on the conditions of the steam systems piping and devices, new hot water boilers were installed.

This project was completed in late 2017.

Descriptions of Past Projects Completed – Fire Protection

Camp Dawson FMS4 Fire Protection

Kingwood, WV

Services Provided:

- Fire Protection

Budget: \$130K

Facility Area: 7,400 sq ft

Owner: WVARNG



FMS4 is a vehicle and equipment repair facility located on the Camp Dawson Army National Guard base located near Kingwood, WV. The 7,400 square foot facility includes 4,800 square feet of high bay service area, with the remaining area dedicated to office space, storage, and locker rooms. The facility contains bulk storage of oil and other equipment fluids, requiring fire protection. MEI was tasked with designing a fire protection system which would provide adequate coverage of FMS4 and meet applicable codes. Through research of NFPA 30 and NFPA 13, MEI was able to determine the size of the service and coverage requirements. MEI determined that by providing separation of the bulk storage from the rest of the facility, the fire protection service requirements could be reduced, eliminating a water service upgrade by the utility. Montum Architecture was brought on board to provide architectural support in regards to the separation of the bulk storage room and for the construction of the sprinkler room. The project was successfully completed in December 2019, one month ahead of schedule.

Project Contact:

Jim Skaggs

WV ARNG

(304) 561-6550

Budget and Timeline History

Project Name	Project Type	Budget	Cost	Notes
Bluestone State Park	Pool Replacement	\$1,000,000	\$935,600	On budget
West Virginia State	HVAC Piping Renovation	\$650,000	\$533,400	On budget
Canaan Valley Resort	Emergency Electrical Repairs	\$225,000	\$129,829	On budget
Holly Grove Manor	Renovation	\$885,000	N/A	On hold
Mapletown Jr/Sr High School	HVAC Renovation	\$1,050,000	\$1,105,900	5.19% over budget
Pipestem – McKeever Lodge	HVAC Piping Replacement	\$1,600,000	\$1,776,000	10.43% over budget
Tygart Lake State Park	Beach and Bathhouse	\$750,000	\$695,000	On budget

= Delivered on budget/on time

Budget and Timeline History

Project Name	Project Type	Contract Length	Contract Delivery	Notes
Blackwater Falls State Park	Boiler Replacement	120 days	180 days*	*Extended 60 days due to equipment delivery issues
Bluestone State Park	Pool Replacement	180 days	180 days	Delivered on time
Canaan Valley Resort	Construction Administration	3.5 years	3.5 years	Long-term project with varying facets – no direct schedule
Twin Falls/Hawks Nest Lodge	HVAC Renovation	90 days	90 days*	*Expedited delivery
Mapletown Jr/Sr High School	Boiler/ HVAC Renovation	180 days	180 days	Delivered on time
Pipestem – McKeever Lodge	HVAC Piping Replacement	365 days	365 days	Delivered on time
Tygart Lake State Park	Beach and Bathhouse	270 days	270 days	Delivered on time

What our satisfied customers have to say...

“Hard working, do-whatever-it-takes, diligent team that provides excellent customer service is what you can expect from Miller Engineering.”

--Chris Halterman, Dominion Post, Morgantown

“As a design/build team, working with Miller Engineering, our project involving a private surgical hospital together was a success – completed ahead of schedule and on budget. Miller worked with us throughout the project to consult, engineer and inspect the mechanical systems. Craig Miller, PE and his staff are working with us again, and are very important members of our design/build team. I highly recommend their services.

--Richard J. Briggs

<p>Brad Leslie, PE <i>Assistant Chief WV Division of Natural Resources State Parks Section 324 4th Avenue South Charleston, WV 25303 (304) 289-7663 Bradley.S.Leslie@wv.gov</i></p>	<p>Paul Braham <i>Associate Director of Maintenance & Engineering Mylan Pharmaceuticals 781 Chestnut Ridge Road Morgantown, WV 256505 412-519-9846 304-554-5626 Paul.Braham@mylan.com</i></p>	<p>Gregory L. Melton <i>Director WV General Services Div. 401 California Ave. Building 4, 5th Floor Charleston, WV 25305 (304) 558-1808 304-965-1219 Gregory.L.Melton@wv.gov</i></p>
<p>Bob Ashcraft <i>Safety and Ancillary Projects Monongalia County Schools 533 East Brockway Street Morgantown, WV 26501 (304) 276-0152 rbashcraft@access.k12.wv.us</i></p>	<p>Dave Parsons <i>Energy Program Manager WV General Services 112 California Avenue Building 4, 5th Floor Charleston, WV 25305 (304) 957-7122 David.K.Parsons@wv.gov</i></p>	<p>Richard J. Briggs <i>Vice President Lutz Briggs Schultz & Assoc. Inc. 239 Country Club Drive Ellwood City, PA 16117-5007 (724) 651-4406 lbsa@zoominternet.net</i></p>

From Jonathan Miller, Mechanical Project Manager, Nitro Mechanical:

“Miller Engineering is not your average engineering company; they work with the owner AND the contractor to solve all issues that arise throughout the project to make the process as fluid as possible”



CITY-PLUMBING & HEATING

1500 Morgantown Industrial Park

Morgantown WV 26501-2339

Phone: 304-296-7135 Fax: 304-291-5269

January 22, 2020

Miller Engineering
250 Scott Ave, Suite 1
Morgantown, WV 26508

Re: Letter of Recommendation

To Whom It May Concern:

City Plumbing & Heating has worked with Miller Engineering for many years, on various commercial, educational, medical, and industrial projects.

We have acted as a plumbing/mechanical contractor on numerous Miller Engineering designed projects. As a team we have found that Miller Engineering's clear and concise design documents allow us to perform our work efficiently, timely, and without unforeseen complications. Miller Engineering's unwavering stance of delivering a quality project for their clients is apparent in all phases of a project.

Having been in this business for thirty plus years, we value the importance of a design professional's ability to convey design intent, being accessible during construction, as well as promptly responding to questions that may arise during the project.

We have every confidence that Miller Engineering will deliver another successful and superiorly designed and implemented project.

Sincerely

A handwritten signature in blue ink, appearing to read "Jay Wade", is written over the word "Sincerely".

Jay Wade
President



June 6, 2018

RE: Miller Engineering

To Whom it May Concern,

I have worked on several project with Miller Engineering, over the last few years. Craig Miller and his staff are some of the most detail-oriented engineers I have met. They take extra time, and care, to ensure that their design meets the requirements set forth by the owner and that trades are coordinated properly. Their staff make routine visits to the jobsite to ensure the quality of installation meets their specified standards.

Miller Engineering is also willing to help with value engineering, if required, to meet budgets. However, they are not willing to sacrifice the quality, set forth, in their original design standards. This is an admirable trait in today's engineering world. Many times, value engineering is done without the original designer's review or they may allow substandard products and quality is sacrificed as a result.

In closing, Craig Miller always states that "working with them is different". He's correct. In a world where things are done with little input or involvement by the engineering firm during construction, they stand out as a firm who truly cares. They put thought into their design and the functionality of buildings and the results speak for themselves. Their designs are quality and built to last.

Brian D. Gaudiano

Vice President



P.O. Box 558
2155 Park Avenue
Washington, PA 15301

General Construction & Consulting

Phone 724/229-0119
Fax 724/225-1180

To whom it may concern,

As the Vice-President and Lead Project Manager of MacBracey Corporation, a commercial and industrial general contractor located in Washington, PA, I am writing to support and endorse Miller Engineering and their ability to provide construction design services as well as project management.

MacBracey has found Miller Engineering's drawings and specifications to be both thorough and accurate as to the in-field conditions. Any issues that have come about throughout a construction project Miller Engineering is quick to develop a corrective plan and ensured the project doesn't face delays.

I have found Miller Engineering to go above and beyond the industry standard throughout the entire construction process to make sure everything stayed on track. I have spoken with many members of Miller Engineering "after hours" to solve an issue that needed addressed by the following morning. This is a characteristic that you don't see with a lot of design teams.

I found the entire Miller Engineering team to be both knowledgeable and professional. We at MacBracey would enjoy the opportunity to work with Miller Engineering again in the future. It is truly refreshing to work with a design team that has a passion for the industry and is willing to work with everyone involved to ensure the project gets done correctly and in a timely manner.

Sincerely,

Patrick Bracey

Patrick Bracey
**Vice President,
MacBracey Corporation**



TAB 4 – METHODOLOGY & APPROACH



Project Methodology & Approach

Evaluation

Miller Engineering will begin the design process by reviewing all existing documentation regarding the Eleanor Armed Forces Readiness Center. This includes construction documents, submittals, Testing and Balancing (TAB) reports, and as-built drawings. MEI will use this as the basis to perform a complete site evaluation of the facility and document the building systems as currently constructed and compare to the original design documents. MEI will use these reviews to construct a building information model (BIM) of the readiness center using Autodesk REVIT.

Schematic

Once the BIM model of the readiness center is complete, and MEI grasps the building systems intent and construction, MEI will meet with the owner. The meeting will involve all stakeholders to gain an understanding of the intended project outcomes. MEI will discuss items which will affect the renovation including changes in building usage, current HVAC deficiencies and issues, operating methods, and construction timeline phasing. This information will then be used to perform HVAC calculations to determine heating and cooling loads along with ventilation requirements. The results of the initial calculations will provide a path to follow to determine the best approach to renovating the HVAC systems. Miller Engineering's staff has backgrounds in construction, maintenance, and operations which provide a unique perspective as we do not just think "Will it work?" but also consider "How will it be installed?" and "How well can it be maintained to work as intended?". A majority of MEI's past projects include renovations which must be phased as the owner still occupies the facility. The initial schematic design will be the basis of the 35% documents. MEI will provide cost estimates using real material quotes and take-offs to accurately convey projected costs to the owner.

Design Development

MEI will take input from the owners based upon review of the 35% design documents and proceed. While the requirements of the EOI give specific milestones for progress sets (35%, 65%, 95%, & 100%), MEI will not wait until the next progress set to speak with the stakeholders if questions arise. Our philosophy is that the sooner issues are brought forward and addressed, the less they cost the project in time and money. The estimate will also be updated regularly as MEI treats the estimate as a "living document." Any changes or inputs from the owner, as well as other changes made during proceeding with design development, will be reflected in the estimate. MEI believes in giving the owner the information necessary, including budgetary effects, to make informed decisions regarding the design. The 65% and 95% progress sets will reflect the outcomes of the formal and informal discussions with the owners.

Construction Documents

The construction documents will be completed using both the results of the progress set reviews and internal peer review. MEI understands that while working on a project, engineers and designers can get "tunnel vision", meaning they see what they want to see reflected in the documents. All drawings and specifications issued by Miller Engineering go through a three step

peer review internally to ensure the intent of the document is clearly transmitted. The final 100% construction document set will be issued to the owner for bidding, along with our best estimate of probable cost.

Bidding

During bidding, Miller Engineering will assist the owner to successfully procure bids for the Readiness Center. MEI will be present during the pre-bid meeting to discuss the technical scope of work for the project. Any technical questions from contractors or vendors to the owner during bidding will be answered by MEI. MEI will provide addendum documents as needed. MEI will also assist in reviewing bids and making recommendations to the owner. We have completed many projects through WV State Purchasing, and understand the requirements to successfully bid a project with the state of West Virginia.

Construction Administration

After bids are received and the contract awarded, MEI is not a firm that disappears until the final punch list. MEI will provide thorough construction administration (CA) services as agreed upon with the owner. We will be present for a construction kick-off meeting to make sure the project gets off on the right foot. MEI believes in being present at construction progress meetings and making informal site visits to keep the project on track. Our background in construction and operations allows us to understand the sequencing of construction in the field to better aid the contractors when questions arise. One of MEI's main beliefs is that any requests for information (RFIs) submitted by the contractor should be reviewed and answered within one business day if possible. This is because we understand that delays in RFI responses can lead to additional costs and construction days. If necessary, we will provide an informal answer and follow up with the formal response to keep the project rolling. During progress meetings and site visits, any issues discovered by MEI will be relayed to the owner and contractor immediately to prevent delays. Another company standard is for our staff to be present for testing and balancing (TAB), equipment start-up, and owner training. While these events occur at the very end of the project, they are critical to ensure the new systems operate as designed. MEI will be on hand for these activities to quickly answer any questions and confirm these items are performed properly in accordance with the construction documents.



TAB 5 – PROJECT FORMS





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: 679222

Doc Description: Eleanor RC HVAC Renovation Design

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2020-01-17	2020-02-06 13:30:00	CEOI 0603 ADJ2000000002	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:

FOR INFORMATION CONTACT THE BUYER

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

Signature X

FEIN #

DATE

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

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: Miller Engineering, Inc.

Authorized Signature: [Signature] Date: 3-16-20

State of West Virginia

County of Monongalia, to-wit:

Taken, subscribed, and sworn to before me this 3rd day of February, 2020.

My Commission expires September 16, 2024.



NOTARY PUBLIC [Signature]