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Header # 1

List View

General Information Contact Default Values Discount Document Information Clarification Request

|   |  |
|---|--|
| <b>Procurement Folder:</b> 853816               | <b>SO Doc Code:</b> CEOI   |
| <b>Procurement Type:</b> Central Purchase Order | <b>SO Dept:</b> 0603   |
| <b>Vendor ID:</b> 000000229419                  | <b>SO Doc ID:</b> ADJ2100000008                                    |
| <b>Legal Name:</b> MILLER ENGINEERING INC       | <b>Published Date:</b> 3/8/21                                      |
| <b>Alias/DBA:</b>                               | <b>Close Date:</b> 3/24/21   |
| <b>Total Bid:</b> \$0.00                        | <b>Close Time:</b> 13:30   |
| <b>Response Date:</b> 03/23/2021                | <b>Status:</b> Closed  |
| <b>Response Time:</b> 9:46                      | <b>Solicitation Description:</b> EOI- Brushfork Armory HVAC Design |
| <b>Responded By User ID:</b> MillerEngineer1    | <b>Total of Header Attachments:</b> 1                              |
| <b>First Name:</b> Travis                       | <b>Total of All Attachments:</b> 1                                 |
| <b>Last Name:</b> Taylor                        |  |
| <b>Email:</b> ttaylor@millereng.net             |  |
| <b>Phone:</b> 304-291-2234                      |  |



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**State of West Virginia  
 Solicitation Response**

**Proc Folder:** 853816  
**Solicitation Description:** EOI- Brushfork Armory HVAC Design  
**Proc Type:** Central Purchase Order

| Solicitation Closes | Solicitation Response        | Version |
|---------------------|------------------------------|---------|
| 2021-03-24 13:30    | SR 0603 ESR03232100000006474 | 1       |

**VENDOR**  
 000000229419  
 MILLER ENGINEERING INC

**Solicitation Number:** CEOI 0603 ADJ2100000008  
**Total Bid:** 0  
**Response Date:** 2021-03-23  
**Response Time:** 09:46:04  
**Comments:**

**FOR INFORMATION CONTACT THE BUYER**  
 Tara Lyle  
 (304) 558-2544  
 tara.l.lyle@wv.gov

**Vendor Signature X** **FEIN#** **DATE**

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

| Line | Comm Ln Desc                      | Qty | Unit Issue | Unit Price | Ln Total Or Contract Amount |
|------|-----------------------------------|-----|------------|------------|-----------------------------|
| 1    | EOI- Brushfork Armory HVAC Design |     |            |            | 0.00                        |

| Comm Code | Manufacturer | Specification | Model # |
|-----------|--------------|---------------|---------|
| 81101508  |              |               |         |

**Commodity Line Comments:**

**Extended Description:**

EOI- Brushfork Armory HVAC Upgrades Design per the attached documentation.



**Expression of Interest**  
**West Virginia – Army National Guard**  
**Brushfork Armory HVAC Renovation Design**  
**Bluefield, WV**  
**CEOI ADJ2100000008**  
**March 24, 2021**



**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<br>Miller Engineering, Inc. Firm Profile<br>Craig Miller, PE<br>Travis Taylor, PE<br>Joseph Machnik<br>Eyad Alhalabi<br>Jack Jamison<br>Certifications and Degrees Applicable to This Project   |
| TAB 2: | Project Organization<br>Staffing Plan<br>Organization Chart   |
| TAB 3: | Experience<br>South Middle School HVAC Renovations<br>Pipestem Plaza & Locker Rooms<br>Pipestem HVAC Piping Replacement<br>Building 25 HVAC Piping<br>AB Withers Brandon Hall<br>Morgantown High School Area 4 HVAC<br>Cacapon Lodge Addition and Renovations<br>Similar Projects Budget Delivery History<br>Similar Projects Deadline Delivery History<br>References |
| TAB 4: | Methodology<br>Project Approach & Methodology   |
| TAB 5: | Project Forms<br>Signed EOI Forms<br>Purchasing Affidavit   |

## The Miller Engineering Difference



We are very pleased to submit our response for the Brushfork Armory HVAC Renovation Design project. We have elected to submit as prime as our understanding from the Expression of Interest is that the project is primarily HVAC focused. MEI has operated in this role many times before, including on the recent Mill Point Canopy and Camp Dawson FMS 4 Fire Protection Projects. We have also served as the prime consultant on many other projects for various clients and state agencies. While MEI's project portfolio includes many building systems, HVAC and MEP 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 renovation we do requires a phased approach to keep the facility in operations. We routinely deliver phased renovations for educational, institutional, commercial, and government facilities. 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 10 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.

As previously mentioned, most of MEI's project revolve around HVAC upgrades. Currently, the new addition and renovations to Cacapon Lodge are in the homestretch of becoming ready for start up and testing of the HVAC systems. Monongalia County Schools have turned to MEI to design and implement several HVAC upgrades to K-12 schools throughout the county. In addition to the aforementioned Cacapon Lodge, we have been the mechanical engineer, including serving as prime consultant, on many projects for the WV DNR and WV GSD. Most of these projects are focused on HVAC upgrades and modifications. MEI has completed several projects for Pipestem Resort State Park which is near Bluefield in Summers County. MEI is currently serving as the MEP design consultant on renovations to the Visitors Center and Tram Facilities at Pipestem Park. Traveling to the far southern portion of West Virginia is not foreign to us.

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 Brushfork Armory HVAC 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 'C. Miller', with a long horizontal line 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
- AddressVoice/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
- Blackwater Falls Lodge Renovation
- Hawks Nest Lodge Interior Improvements
- Capitol Complex Central Chiller Modificaitons

### **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               |

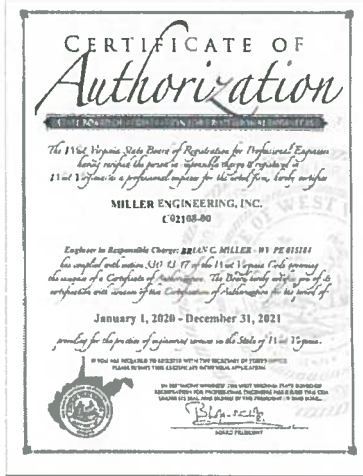
#### **Education**

1971 Fairmont State College, BS-Engineering Technology-Electronics

#### **Licenses and Certifications**

- Master Code Professional, IAEL 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

# Staff – Proposed Staffing Plan







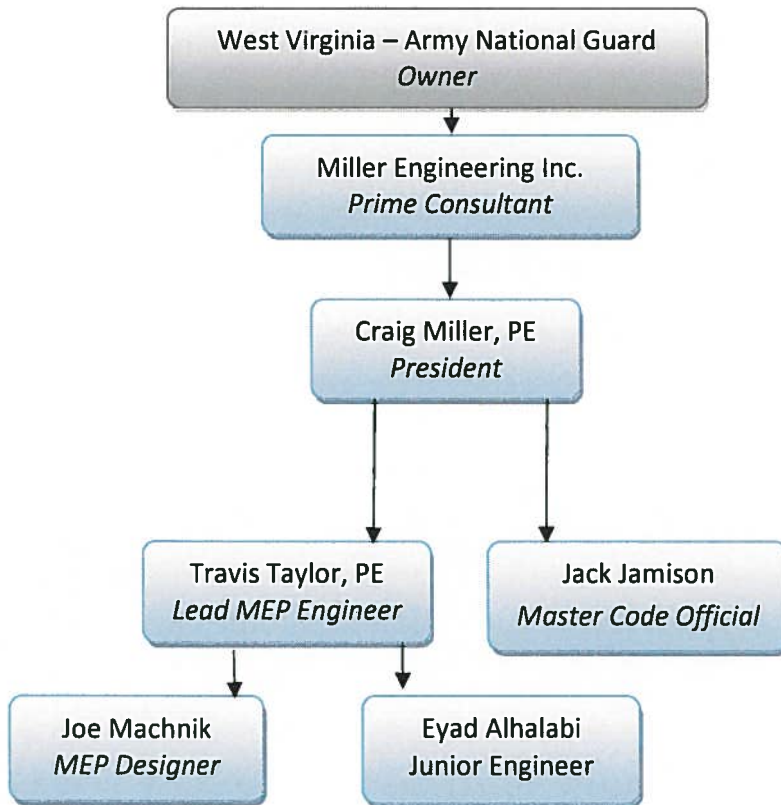
## TAB 2 – PROJECT ORGANIZATON



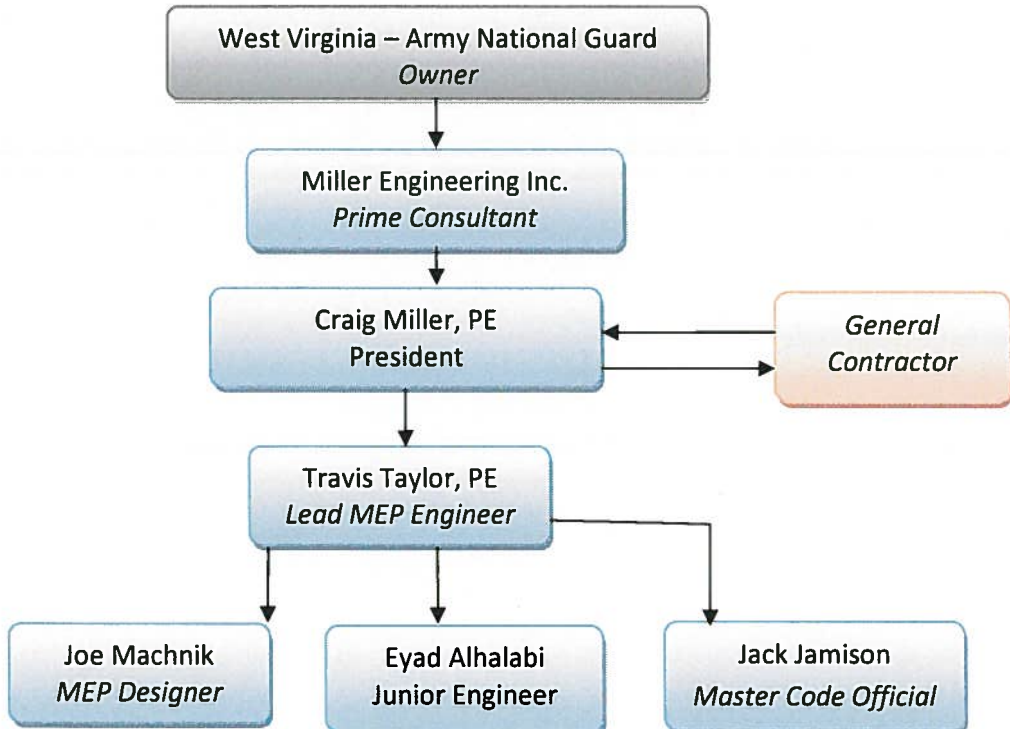
## Staff – Proposed Staffing Plan

|  |                                 |
|--|---------------------------------|
| <b>Team Leader/ Primary Point of Contact</b> | <b><i>Craig Miller, PE</i></b>  |
| <b>Engineer in Responsible Charge</b>        | <b><i>Craig Miller, PE</i></b>  |
| <b>Electrical Code Specialist</b>            | <b><i>Jack Jamison</i></b>      |
| <b>Lead MEP Engineer</b>                     | <b><i>Travis Taylor, PE</i></b> |
| <b>Designer / BIM Coordinator</b>            | <b><i>Joseph Machnik</i></b>    |
| <b>Junior Engineer</b>                       | <b><i>Eyad Alhalabi</i></b>     |
| <b>Master Code Specialist</b>                | <b><i>Jack Jamison</i></b>      |

# 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 ft<sup>2</sup>**

**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 had been suffering from poor air quality and temperature control issues. Additionally, the condensing unit had failed. Initiated in November, MEI designed a rebuild of the AHU; replacing the DX coils with HW and CW coils and adding new chillers in time to meet the Spring cooling need. 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 project was completed in December 2019.

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

## Descriptions of Past Projects Completed – MEP

### Pipestem Plaza

#### Services Provided:

- Electrical
- Fire Alarm
- Plumbing
- HVAC
- Accommodation of Existing Systems

**Estimated Budget: \$2.2M**

**Facility Area: 63,000 ft<sup>2</sup>**

**Owner: West Virginia Division of Natural Resources**



The Pipestem lodge has an outdoor plaza which is above the pool locker rooms and support areas. The plaza concrete deck system has failed, allowing water to damage the structure and the spaces below. The locker rooms and indoor pool were served by a single air handling unit which failed and never handled humidity well. The plaza, along with the locker rooms below, were completely renovated with modern plumbing fixtures and changes to meet ADA requirements. New LED lighting was installed to serve the locker rooms. MEI designed a HVAC solution using a dedicated MAU and exhaust system to serve the indoor pool to provide conditioned air and humidity control. The lockers and adjacent areas were served with fan coil units. All of the new HVAC equipment had chilled and hot water coils tied into the main building loop piping designed by MEI under a previous project. Other improvements include updates to the fire alarm system.

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

## 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 ft<sup>2</sup>**

**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

## 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 ft<sup>2</sup>**

**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

Philippi, WV

#### Services Provided:

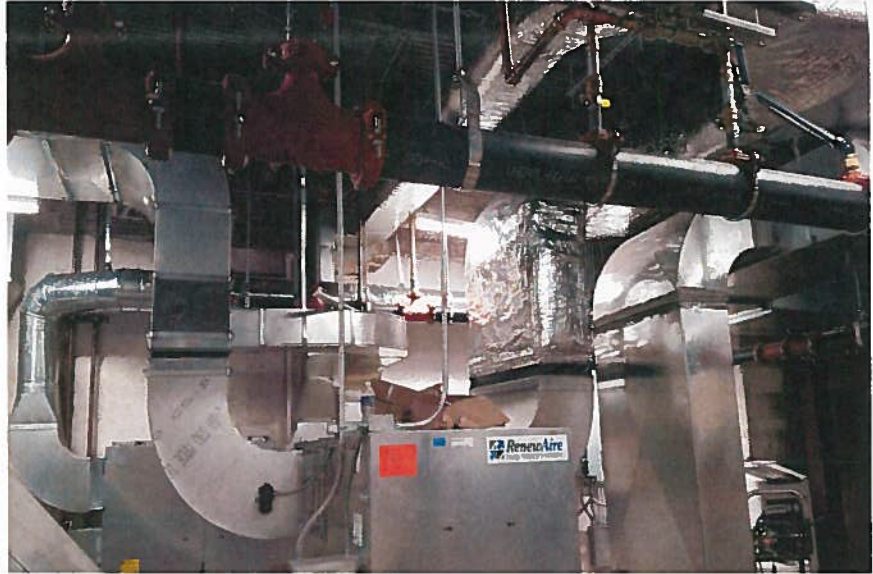
- Electrical
- HVAC

**MEP Budget: \$700k**

**Facility Area: 31,800 ft<sup>2</sup>**

**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 – 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.

## Project Experience: MEP

### Cacapon Lodge Addition & Renovation

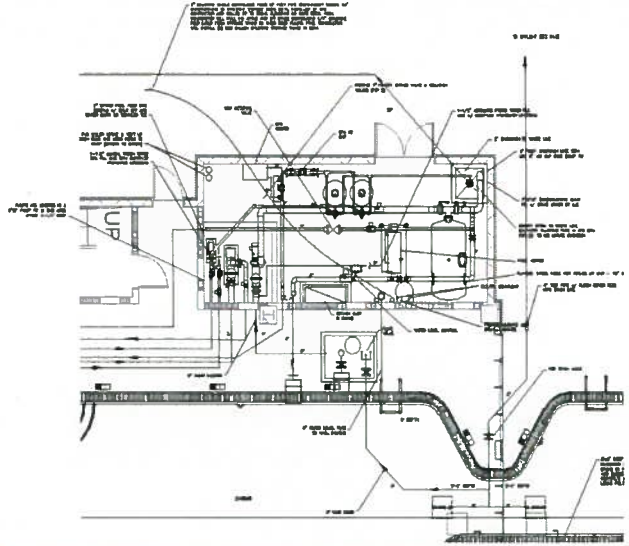
#### Services Provided:

- Electrical
- Plumbing
- HVAC
- Fire Alarm
- Fire Protection
- Pool

**Estimated Budget: \$26M**

**Facility Area: 113,000 sq ft**

**Owner: WV Department of Natural Resources**



Miller Engineering teamed with Paradigm Architecture to design the addition to the lodge at Cacapon State Park. The addition includes approximately 80 guest rooms, new kitchen and dining areas, a spa, indoor/outdoor pool, and support spaces. All of the utilities were upgraded. A new boiler / chiller plant will be installed with distribution to local air handling units. The electrical service includes an upgrade to 480V while using the existing distribution panels where possible as local branch panels. The project is currently under construction.

Project Contact:  
*Bradley S. Leslie, PE, Assistant Chief*  
*WVDNR State Parks Section*  
*(304) 558-2764 ext. 51826*

## Budget and Timeline History

| Project Name                  | Project Type                 | Budget      | Cost        | Notes              |
|-------------------------------|------------------------------|-------------|-------------|--------------------|
| Bluestone State Park          | Pool Replacement             | \$1,000,000 | \$935,600   | On budget          |
| WestVirginia State Building25 | 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*

**Brad Leslie, PE**  
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 State Parks Section  
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*Associate Director of Maintenance & Engineering  
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 304-554-5626  
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**Dave Parsons**  
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**Richard J. Briggs**  
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 239 Country Club Drive  
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[lbsa@zoominternet.net](mailto:lbsa@zoominternet.net)*

*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”



## TAB 4 – METHODOLOGY & APPROACH



# Project Methodology & Approach

## Evaluation

Miller Engineering will begin the design process by reviewing all existing documentation related to the Brushfork Armory, including any documentation related to the design, testing, and maintenance of the HVAC systems. Reviewing documents will give MEI an initial understanding of the facilities which will be confirmed or adjusted through an extensive on site evaluation of the facilities. Evaluations of both existing documents and site visits will allow the design team to create initial building models. MEI will utilize building information modeling (BIM) via Autodesk REVIT to create models and therefore drawings of the facilities' areas of impact.

## Schematic

Once the BIM models are accomplished, 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 deficiencies and issues, operating methods, operating costs, and construction timeline phasing. MEI will use this information to validate the sizing of the HVAC equipment against their initial sizing to determine the extent of the HVAC renovations required. 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. Initial schematic calculations will determine the extent of the renovations required. This may result in modifications to architectural or structural components as needed to achieve the HVAC renovations. MEI would utilize an architect or structural engineer for these components if the renovations require such modifications. These ramifications, in addition to any occupancy disruptions anticipated, would be discussed with the owner. 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 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 upgrades. 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





Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Expression of Interest  
 Architect/Engr

|   |                            |                         |                                 |
|---|----------------------------|-------------------------|---------------------------------|
| <b>Proc Folder:</b> 853816                                |                            |                         | <b>Reason for Modification:</b> |
| <b>Doc Description:</b> EOI- Brushfork Armory HVAC Design |                            |                         |                                 |
| <b>Proc Type:</b> Central Purchase Order                  |                            |                         |                                 |
| <b>Date Issued</b>  | <b>Solicitation Closes</b> | <b>Solicitation No</b>  | <b>Version</b>                  |
| 2021-03-08  | 2021-03-24 13:30           | CEOI 0603 ADJ2100000008 | 1                               |

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:**

**Vendor Name :**

**Address :**

**Street :**


**City :**

**State :** **Country :** **Zip :**

**Principal Contact :**


**Vendor Contact Phone:** **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Tara Lyle  
 (304) 558-2544  
 tara.l.lyle@wv.gov

**Vendor Signature X**  **FEIN#** -1386 **DATE** 3/23/2021


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)  
B. Craig Miller, PE - President  
\_\_\_\_\_  
(Printed Name and Title)  
54 West Run Rd. Morgantown, WV 26508  
\_\_\_\_\_  
(Address)  
(304) 291-2234  
\_\_\_\_\_  
(Phone Number) / (Fax Number)  
cmiller@millereng.net  
\_\_\_\_\_  
(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.

Miller Engineering, Inc.  
\_\_\_\_\_  
(Company)

  
\_\_\_\_\_  
(Authorized Signature) (Representative Name, Title)

B. Craig Miller, PE - President  
\_\_\_\_\_  
(Printed Name and Title of Authorized Representative)

3/23/2021  
\_\_\_\_\_  
(Date)

(304) 291-2234  
\_\_\_\_\_  
(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: Miller Engineering, Inc.

Authorized Signature:  Date: 3/23/2021

State of West Virginia

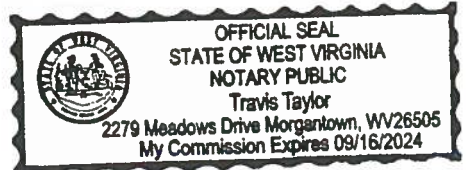
County of Monongalia, to-wit:

Taken, subscribed, and sworn to before me this 23<sup>rd</sup> day of March, 2021.

My Commission expires September 16<sup>th</sup>, 2024.

AFFIX SEAL HERE

NOTARY PUBLIC 



Purchasing Affidavit (Revised 01/19/2018)