



West Virginia Purchasing Division

2019 Washington Street, East
Charleston, WV 25305
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The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at wvOASIS.gov. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at WVPurchasing.gov with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 1

List View

General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 1039904

Procurement Type: Central Purchase Order

Vendor ID:

Legal Name: MILLER ENGINEERING INC

Alias/DBA:

Total Bid: \$0.00

Response Date:

Response Time:

Responded By User ID:

First Name:

Last Name:

Email:

Phone:

SO Doc Code: CEOI

SO Dept: 0603

SO Doc ID: ADJ2200000014

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Status: Closed

Solicitation Description:

Total of Header Attachments: 1

Total of All Attachments: 1



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: 1039904
Solicitation Description: Huntington Tri-State Armory HVAC Renovation Design
Proc Type: Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2022-05-17 13:30	SR 0603 ESR05162200000007160	1

VENDOR
 000000229419
 MILLER ENGINEERING INC

Solicitation Number: CEOI 0603 ADJ2200000014
Total Bid: 0
Response Date: 2022-05-16
Response Time: 12:24:44
Comments:

FOR INFORMATION CONTACT THE BUYER
 David H Pauline
 304-558-0067
 david.h.pauline@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	Huntington Tri-State Armory HVAC Renovation Design				0.00

Comm Code	Manufacturer	Specification	Model #
81101508			

Commodity Line Comments:

Extended Description:

Provide professional architectural and engineering design services per the attached documentation.



Expression of Interest
West Virginia – Army National Guard
Huntington Tri-State Armory HVAC Renovation Design
Kenova, WV
CEOI ADJ2200000014
September 16, 2022



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
Jack Jamison
Certifications and Degrees Applicable to This Project
- TAB 2: Project Organization
Staffing Plan
Organization Chart
- TAB 3: Experience
Blackwater Falls Lodge
South Middle School HVAC
AB Withers Brandon Hall
WV Building 22 HVAC
Jackson County AFRC Canopy
Cacapon Lodge Addition and Renovations
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 Huntington Tri-State 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 HVAC focused. MEI has operated in this role many times before, including on multiple recent WV Army National Guard projects. We are acting as the prime consultant on the Camp Dawson Operations Center HVAC Renovations and Bridgeport FWAATS Bathroom Renovations projects for the WV Army National Guard. 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 projects 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 is currently working on the design of HVAC renovations to WV Building 25 in Parkersburg, WV and WV Building 54 in Fairmont, WV. In regards to the location of the project in Kenova, MEI has completed and is currently working on several projects for the Huntington Water Quality Board

related to the water treatment facility and floodwall stations in both Cabell and Wayne counties.

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 Huntington Tri-State 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,



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 19 years Miller Engineering, Inc. (MEI) has engineered solutions for 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 11 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
- Construction Contract Administration by Engineers
 - 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

Building Systems Design

Renovations/ Adaptive Re-use
Code Compliance
Indoor Air Quality
Constructability

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
Department of Parks & Recreation
Private





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

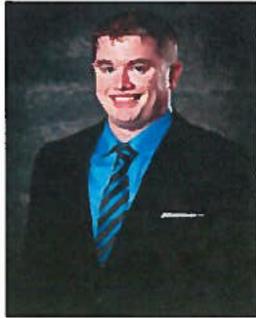
2003- Present	Miller Engineering, Inc.	President, Relationship Manager
2002-2003	Casto Technical Services	Existing Building Services Staff Engineer
2001-2002	Uniontown Hospital	Supervisor of Engineering
1995-2001	West Virginia University	Staff Engineer
1990-1995	BOPARC	Caretaker – Krepps Park
1983-1988	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)
- 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 many high value electrical construction projects. 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 and subsequent Lodge Renovation
- MTEC Welding Shop
- Camp Dawson FMS4 Fire Protection and Ops Center HVAC Improvements
- WV State Building 22 2nd Floor Renovations
- WV State Building 25 HVAC Piping Replacement and subsequent Heat pump 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

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

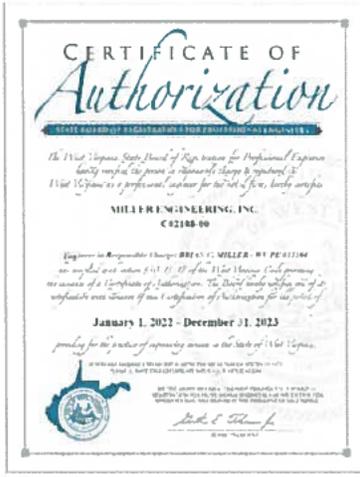
Education

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

Team Leader/ Primary Point of Contact

Craig Miller, PE

Engineer in Responsible Charge

Craig Miller, PE

Electrical Code Specialist

Jack Jamison

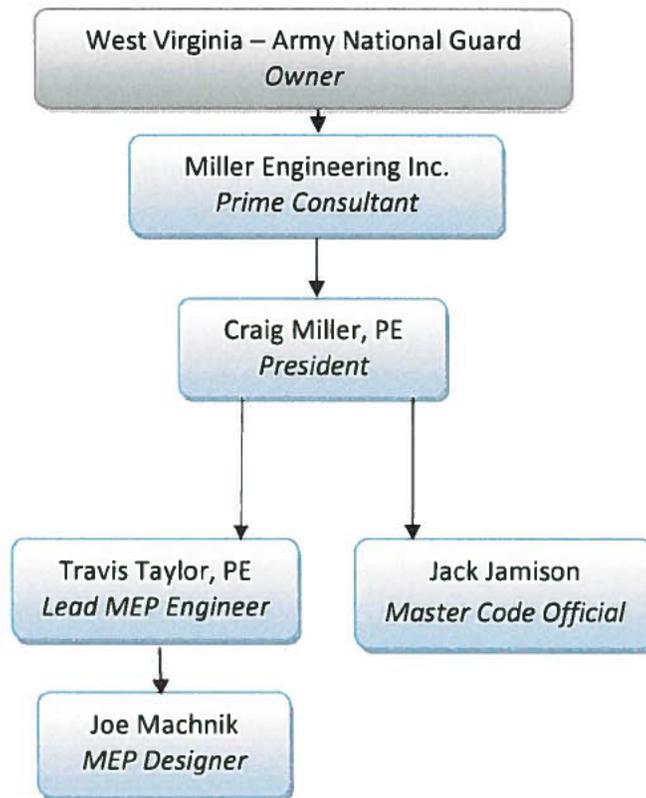
Lead MEP Engineer

Travis Taylor, PE

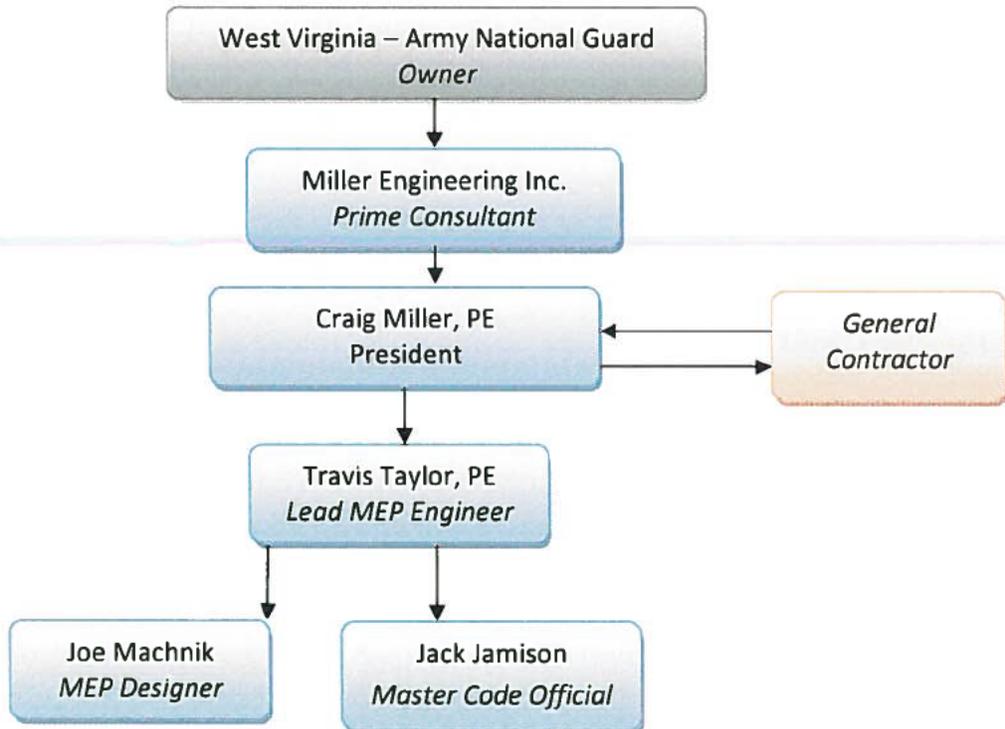
Designer / BIM Coordinator

Joseph Machnik

Organization Chart – Design



Organization Chart – Construction



Descriptions of Past Projects Completed – Renovation

Blackwater Falls State Park Lodge Renovations

Davis, WV

Services Provided:

- General Trades
- Plumbing
- Electrical
- Mechanical
- Pool

Const. Cost: \$4.6 Mil

Facility Area: 44,000 ft²

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



Project Contact:

*Barrow Koslosky, AIA – Chief of PEM
WV DNR*

Phone: (304) 558-2764

MEI was part of a design team with Paradigm Architecture to design the interior renovations to the lodge at Blackwater Falls State Park. All 54 lodge guestrooms were completely renovated with new finish, HVAC, and bathroom upgrades. Four of the guestrooms were modified to meet modern ADA guidelines. The lobbies, reception area, and dining rooms were upgraded with new HVAC, lighting, and finishes. The original finned tube radiant was replaced with new 4 pipe fan coil units and were tied into the boilers which were recently replaced by a previous MEI project.

A new chiller was installed with pumps and chilled water piping to the fan coil units. The guest rooms HVAC systems are fan coil units with ventilation served by make-up air units. Energy recovery ventilators pre-condition outside air to make the make-up air units operate more efficiently. The lodge was re-opened in January 2022.

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 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 – HVAC, Electric

Withers Brandon Hall

Philippi, WV

Services Provided:

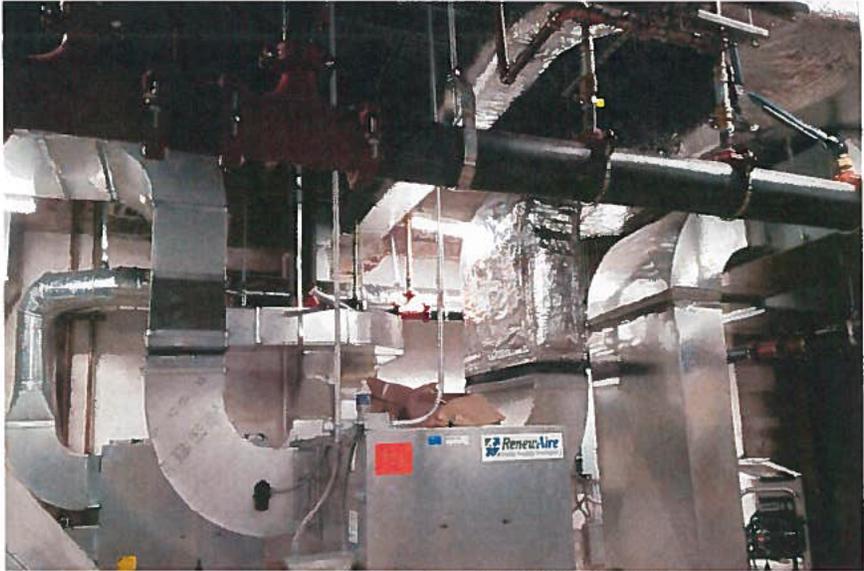
- Electrical
- HVAC

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

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*

Descriptions of Past Projects Completed – New Construction

Jackson County AFRC Wash Canopy

Mill Point, WV

Services Provided:

- New Construction
- Construction Administration

Construction Cost: \$255K

Facility Area: N/A

Owner: WVARNG



MEI and Montum Architecture teamed up to design a new canopy over the wash bay area in the Jackson County Armed Forces Readiness Center. The goal from the WV Army National Guard is to reduce the amount of rainwater draining through the wash bay into the oil/water separator. A new custom manufactured metal canopy was assembled and installed on site by the contractor. New structurally reinforced piers were formed in place and installed to support the new canopy. The rainwater runoff from the canopy roof is collected and routed internally down the posts integral diverters. The project was successfully completed in April 2022.

Project Contact:

Jim Skaggs

WV ARNG

(304) 561-6550

Project Experience: MEP

Cacapon Lodge Addition & Renovation

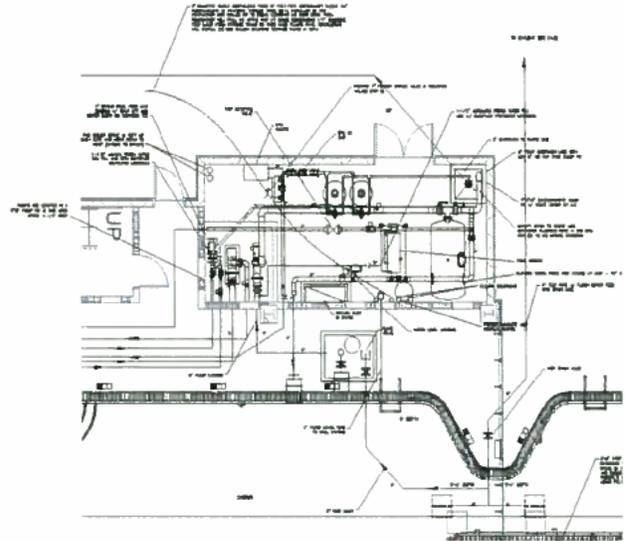
Services Provided:

- 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

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
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

Barrow Koslosky, AIA
*Chief of Planning,
 Engineering &
 Maintenance
 WV Division of Natural
 Resources
 State Parks Section
 324 4th Avenue
 South Charleston, WV25303
 (304) 558-2764
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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 Tri-State 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. A review of all applicable codes and guidelines regarding data centers including ASHRAE, building codes, and military construction standards will aid in initial design and approach to a solution. 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



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)  _____
(Printed Name and Title) Craig Miller, PE - President _____
(Address) 54 West Run Road Morgantown, WV 26508 _____
(Phone Number) / (Fax Number) 304-291-2234 _____
(email address) cmiller@millereng.net _____

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract 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/Contract 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.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Miller Engineering, Inc.
(Company)  _____
(Authorized Signature) (Representative Name, Title)
Craig Miller, PE - President _____
(Printed Name and Title of Authorized Representative) (Date)
304-291-2234 _____
(Phone Number) (Fax Number)
cmiller@millereng.net _____
(Email Address)