



February 8, 2022

Mr. David Pauline, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street, East - PO Box 50130
Charleston, West Virginia 25305-0130

Subject: Clarksburg Armory Windows & HVAC Renovation Design (CEOI ADJ22*09)

Mr. Pauline:

ZMM Architects and Engineers is pleased to submit the attached information to demonstrate our experience and our qualifications to provide professional architectural and engineering services for the Clarksburg Armory Windows & HVAC Renovation Design project. Established in 1959, ZMM is a West Virginia based A/E firm, and is noted for design excellence and client focus. As a full-service design firm with a longstanding relationship with the West Virginia Army National Guard (WVARNG), ZMM has the right combination of expertise, West Virginia renovation experience, and West Virginia Army National Guard design experience required to help successfully complete this project.

ZMM's extensive experience includes the design and construction of the Job Charles County Fairgrounds, providing the Capitol, the Clay

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WV Purchasing Division

our firm becoming a part of the West Virginia. Our experience includes the MO Expansion (noted as Camp Dawson MCA - West Virginia), and the Marshall University renovation project, including the State Capitol (Civic Center), and

While a window is to be added, the attached drawings show the need for new frames and replacement windows.

type of issues that need to be addressed. Existing door and window frames and windows are in poor condition. The type of glazing, the existing door/window frames, and the replacement of over 1,200

In addition, the project is being handled by both the local and state governments.

industry leaders that have been involved in design issues on projects similar to this one.

With the WVARNG on a variety of HVAC related projects. Since the beginning of the COVID-19 pandemic, ZMM Architects and Engineers has been actively reviewing the research and documentation that has been issued by organizations such as the Centers for Disease Controls (CDC), the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), and HVAC-related equipment manufacturers. In addition to traditional mechanical improvement projects ZMM

Architects and Engineers has been working to modify HVAC systems to improve occupant safety. Our engineers have provided design solutions to improve HVAC systems at schools, hospitals, the State Capitol Complex, and the Clay Center. As part of the current project, ZMM recommends that the WVARNG consider employing strategies to better safeguard against the spread of COVID-19, influenza, colds, and other allergens. These improvements may include increased filtration, control sequence upgrades (for additional air flow and outdoor air), installation of UV-C lighting, as well as the installation of needlepoint bipolar ionization.

Thank you for taking the time to review the attached expression of interest that includes information about our proposed approach for the Clarksburg Armory Windows & HVAC Renovation Design project, as well as ZMM's qualifications, and relevant project experience. Additionally, please visit our website at www.zmm.com to see the full range of renovation projects that we have designed. We appreciate your consideration for this important endeavor and look forward to continuing our work for the West Virginia Army National Guard.

Respectfully submitted,

ZMM Architects and Engineers



Adam R. Krason, AIA, NCARB, LEED-AP
Principal

Table of Contents

Cover Letter
Table of Contents

1. Project Approach and Understanding
2. About ZMM
 - History and Services
 - Award Winning Design
3. WVARNG Experience
4. Renovation Experience
5. Qualifications
 - Team Resumes
6. References

PROJECT APPROACH

Management Plan, Quality Control Plan, Cost Control Plan Clarksburg Armory Windows & HVAC Renovation Design:



BACKGROUND

It is ZMM's understanding that the project will include the replacement of all windows, aluminum storefronts, overhead doors, as well as the HVAC systems in the office areas. We anticipate that the design will be required to meet all current building codes, energy codes, and AT/FP standards. There are a variety of issues that needs to be addressed when commencing a door and window replacement projects. Some of the items to consider include the likelihood that the existing door and window caulk contains hazardous materials (asbestos), the manner that the doors and windows are attached to the building (to meet blast requirements), the appropriate type of glazing (for both security and energy efficiency), the need for egress type windows, as well as the opportunity to recycle the existing door and window frames and glass. Similarly, prior to selecting the HVAC system for the project, ZMM will investigate the existing system, opportunities for improved performance and efficiency, the space available to distribute ductwork, and future maintenance requirements. Below, please note our strategy to address each of the issues identified above in our approach to the project.

APPROACH

ZMM Architects and Engineers recommends the following approach to complete the Windows and HVAC Renovation project:

- Commence the project with a meeting with the West Virginia Army National Guard (WARNG) at the Clarksburg Armory. Key items to be discussed during the meeting include:
 - Review Issues with the Current Windows, Storefront, Overhead Doors, and HVAC System
 - Review the Proposed Scope of Work
 - Review the Project Budget and Schedule
 - Review Project Constraints
 - Discuss Energy Efficiency Objectives

Following the onsite meeting, ZMM would commence the investigative phase of the project. ZMM Architects and Engineers will begin the investigation process by gathering any drawings, specifications, or other documents of the existing building, especially as it pertains to the windows and HVAC system. The investigative process and research for the project will ensure a cost-effective well-designed solution that will help eliminate changes or other issues during the construction phase. ZMM will also discuss potential windows and HVAC system options with key stakeholders. Our evaluation will include:

- Conduct an In-Depth Study of Any Existing Drawings and As-Built Conditions Relative to the Windows and HVAC Systems
- Review all Windows and HVAC Components for Integrity
- Review Conditions of the:
 - Windows and Window Frames
 - Adjacent Façade Material
 - Window Head, Jamb, and Sill
 - Underlying Structure
 - Lintels
 - Adjacent Interior Finish
- Additional Items for Review/Consideration:
 - Hazardous Material Assessment (Caulk, Paint, Drywall/Plaster)
 - AT/FP Blast Requirements/Setbacks
 - Glazing Selection
 - Fire Marshal (Windows for Egress)
 - Opportunity for Recycling
- Consider HVAC System Performance
- Discuss Various Windows and HVAC Systems Including Initial Cost and Life Cycle Cost
- Work with the WVARNG to Develop Recommendations for the Windows and HVAC Systems

ZMM Architects and Engineers will review all collected data, discuss different options with the West Virginia Army National Guard, and reach consensus on the appropriate design parameters that will be met for both the windows and HVAC renovation. ZMM will utilize the combined experience of multiple disciplines (architects and structural engineers) to provide the best method for renovating the door and window openings and the adjacent components, as well as determining methods to attach to the structure that will meet AT/FP standards. ZMM will then consult with several door and window manufacturers and installers to recommend the best window and glazing system for the project. ZMM's mechanical engineers will also investigate a variety of mechanical systems to ensure that the most appropriate system is selected for the project.

At the completion of this first phase, all required improvements will be identified, and any scope/budget issues will be resolved. The proposed improvements will also be reviewed with the State Fire Marshal as upgrades to existing facilities often require simultaneous life safety improvements. The completion of this first phase will be used as a portion of the 35% submission.

Once the first phase is completed, ZMM will develop plans, specifications, and bidding documents for the proposed improvements. Drawings, specifications, and estimates will be submitted for review at 35% (as noted above), and again at 65%, 95%, and 100%. Our recent experience working with the WVARNG will ensure that all documents meet your requirements and standards – saving the WVARNG additional effort and expediting the design phase of the project. Once the documents have been approved, ZMM will assist with the bidding and construction phases of the project, including participation in a pre-bid meeting, developing any required addenda, responding to RFI's, reviewing submittals, and conducting and preparing minutes of construction progress meetings. Our efforts will continue through substantial and final completion inspections and include an eleven-month warranty walk through. Our goal throughout this process will be to act as part of the WVARNG team, with the objective of ensuring the seamless delivery of your project.



PROJECT MANAGEMENT PLAN

ZMM Architects and Engineers proposes to provide services on the project with a team of design professionals that have worked together on a variety of WVARNG facilities throughout the state. The team will be led by Adam Krason (Principal) and Nathan Spencer (Project Manager and Architect). Mr. Krason

and Mr. Spencer have led ZMM's effort on all of the recent work for the WVARNG. Other key team members will include:

John Pruett, PE
Mike White, PE
Mark Epling, AIA
Keith Gonzales
Amy Rhodes
Orion Consulting

Mechanical Engineer
Structural Engineer
Specifications Writer
Construction Administrator
Construction Administrative Assistant
Hazardous Material Analysis (If Required)

ZMM's team has successfully collaborated on multiple projects for the WVARNG, and each team member is familiar with the standards, requirements, and processes that are utilized by the Guard.

ZMM QUALITY CONTROL PLAN



Quality control during the design phase begins with the selection of team members with experience working on projects that are similar to the current effort. ZMM Architects and Engineers staff possesses the WVARNG renovation design experience to ensure the success of the project. Quality control during the design phase will occur through regular, documented, project meetings between the design team and the Guard. In addition to the regular design phase meetings more formal QA/QC will occur at the end of each design phase. A more detailed description of the design phase quality control plan is noted below:

1. **Selecting the Project Team**
ZMM's diverse staff ensures that each project team is made up of highly qualified members, each dedicated to the project's success. Project team members are selected based upon relevant experience, and ability to help achieve the client's vision.
2. **Identifying Project Requirements**
Project team members are fully integrated in each phase of the design process, ensuring a quality project from the commencement. The project requirements are included in a 'Basis of Design' that each member of the project team can access. The 'Basis of Design' helps guide important project decisions.
3. **Identifying Client Expectations**
Knowing and understanding our clients' expectations is our goal. This knowledge gives ZMM a baseline for exceeding expectations. We will commence the design effort with a planning session to help identify your vision for the project.
4. **Ongoing Project Reviews**
As part of the ongoing project reviews, we conduct quality assurance evaluations during each stage of the project:

Schematic Design Phase (35%)
Design Development Phase (65%)

Construction Documents Phase (95%)
Construction Administration Phase

ZMM has developed a series of QA/QC review documents that are completed during each phase, and include a programmatic review, technical review, and review of the project schedule and budget.

5. **Post Project Review**
At the completion of every project, ZMM staff members participate in a learning session to gain insight useful for future projects.
6. **Staff Training, Assessment and Enhancement**
Ongoing staff development and training is very important to ZMM and providing increased opportunities for learning and advancement leads to improved employee performance and more successful projects for our clients.



ZMM COST CONTROL PLAN

Due to the focused nature of the project, ZMM proposes to provide estimating services with our in-house team members. As part of our effort to ensure our ability to meet the WVARNG's budget, ZMM will rely on previous experience, industry standards, and historic bidding data to validate the project budget. Our team has a history of working to successfully deliver projects under challenging budget and schedule constraints for the WVARNG. We commit to working with you to meet the budget and schedule for the Clarksburg Armory Windows & HVAC Renovation Design project.

ABOUT ZMM ARCHITECTS & ENGINEERS

ZMM was founded in 1959 in Charleston, West Virginia by Ray Zando, Ken Martin, and Monty Milstead. Since the inception of the firm, ZMM has been dedicated to providing an integrated approach to building design for our clients.

ZMM delivers this integrated approach by providing all building related design services, including architecture, engineering (civil, structural, mechanical, and electrical), interior design, and construction administration with our in-house team. Our integrated design approach makes ZMM unique among architecture/engineering firms, and helps to ensure the quality of our design solutions by providing more thoroughly coordinated construction documents.



ZMM has maintained a diverse portfolio since the founding of the firm. Early commissions included higher education projects for West Virginia University and Concord College, State Office Buildings 5, 6, & 7 on the State of West Virginia Capitol Campus, and armories for the West Virginia Army National Guard.

Maintaining a diverse practice for over 60 years has provided ZMM with extensive experience in a variety of building types, including educational facilities, governmental facilities (military, justice, correctional), healthcare facilities, recreation facilities, commercial office space, light industrial facilities, and multi-unit residential buildings.

The original partners transferred ownership of the firm to Robert Doeffinger, PE and Steve Branner in 1986. Mr. Doeffinger and Mr. Branner helped guide and expand the firm to its present size of 35 people. Over the past 20 years David Ferguson, AIA, and Adam Krason, AIA, LEED-AP joined in ownership of the firm. In 2020, Randy Jones also joined in ownership of the firm when ZMM acquired Blacksburg-based OWPR Architects & Engineers to create a regional design firm that employs more than 50 highly-skilled professionals.

ZMM has become a leader in sustainable / energy-efficient design, and a trusted resource on complex renovation projects. ZMM's unique renovation project approach and ability to



About ZMM Architects & Engineers (cont.)

provide comprehensive design services has also led the firm to be selected to improve landmark buildings, including the Charleston Coliseum & Convention Center, the Clay Center for the Arts and Sciences, the State of West Virginia Culture Center, and the West Virginia State Capitol Building. Additional significant projects designed by the firm include the Explorer Academy (Cabell County Schools), the Logan-Mingo Readiness Center, the Manassas Park Community Center and Natatorium, the design of the Fourth High School (Frederick County Public Schools), the new Harrington Waddell Elementary School (Lexington City Schools), CAMC Teays Valley ICU, and Ridgeview Elementary School (Raleigh County Schools). ZMM has also provided design services on more than 300 school projects throughout the region.

ZMM's building-related design services include:

Pre-Design

Educational Facility Planning
Existing Building Evaluation
Space Planning
Master Planning

Programming
Feasibility Studies
Site Evaluation and Analysis
Construction Cost Estimating

Design

Architectural Design
Interior Design
Lighting Design

Sustainable Design
Landscape Architecture

Engineering

Civil Engineering
Mechanical Engineering
Energy Consumption Analysis

Structural Engineering
Electrical Engineering
Net Zero Buildings

Post-Design

Construction Administration
Life Cycle Cost Analysis

Value Engineering
Post-Occupancy Evaluation

As ZMM looks to the future, we remain committed to the ideal of providing high-quality, client-focused design solutions that meet budget and schedule requirements. We listen, we respond promptly with innovative and efficient solutions, and we deliver quality projects and develop lasting relationships. You see us in YOUR community every day.



AWARD WINNING DESIGN

2020

AIA West Virginia Chapter: Merit Award
Achievement in Architecture for New Construction
Mountain Valley Elementary School
Bluefield, West Virginia

AIA West Virginia Chapter: Merit Award
Achievement in Architecture
Ridgeview Elementary School
Crab Orchard, West Virginia



2019

AIA West Virginia Chapter: Honor Award
AIA West Virginia Chapter: Citation Award
AIA West Virginia Chapter: People's Choice Award
Charleston Coliseum & Convention Center
Charleston, West Virginia



2018

AIA West Virginia Chapter: Citation Award
Unbuilt Project
Charleston EDGE
Charleston, West Virginia



2017

AIA West Virginia Chapter: Merit Award
Achievement in Architecture
Explorer Academy
Huntington, West Virginia

AIA West Virginia Chapter: Merit Award
Achievement in Sustainability
Logan - Mingo Readiness Center
Holden, West Virginia



2016

AIA West Virginia Chapter: Merit Award
Achievement in Architecture in Interior Design
Christ Church United Methodist
Charleston, West Virginia

AWARD WINNING DESIGN

AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Gauley River Elementary School
Craigsville, West Virginia

2015

AIA West Virginia Chapter: Honor Award

Achievement in Architecture in Sustainable Design

Edgewood Elementary School
Charleston, West Virginia

AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Kenna Pk-5 School
Kenna, West Virginia

2014

AIA West Virginia Chapter: Merit Award

Achievement in Architecture in Sustainable Design

Huntington East Middle School
Huntington, West Virginia

AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Southern West Virginia Community & Technical College
Williamson, West Virginia

AIA West Virginia Chapter: Merit Award

Achievement in Architecture in Interiors/Graphics

Girl Scouts of Black Diamond Council
Charleston, West Virginia

2012

AIA West Virginia Chapter: Honor Award

Excellence in Architecture

West Virginia Housing Development Fund Building
Charleston, West Virginia

2011

AIA West Virginia Chapter: Honor Award

Excellence in Architecture in Historical Preservation

Southside Elementary/Huntington Middle School
Huntington, West Virginia





JOINT INTERAGENCY TRAINING AND EDUCATION CENTER (JITEC)

LEED
GOLD

LOCATION KINGWOOD, WV	SIZE 283,000 SF	COMPLETION 2013	COST \$100M	AWARDS 2011 AIA WV HONOR AWARD
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ZMM, in association with AECOM, provided architectural and engineering design services for JITEC, an Army National Guard campus-style facility for training and operational mission support.

Sited on 30 acres near Camp Dawson, this project included the design of a new operations building, expansion of the billeting facility, renovation of the training facility, and creation of a new base access control point (ACP) and visitor's center. The vision behind the site design and updated master plan is that of a college campus atmosphere. The facility is designed to meet all anti-terrorism/force protection criteria and has achieved LEED Gold Certification. The operations building is prominently sited as the main focal point upon entering Camp Dawson and consists of four distinct areas: the Joint Operations Center (JOC), a suite of secure training rooms, base headquarters and JITEC administrative offices, and a server and telecommunications room.

Built to SCIF standards, the JOC contains a state-of-the-art command center, housing 48 permanent work stations in a theater-style configuration, facing a large video wall, flanked by conference rooms and offices for both officers and support staff. The billeting (hotel) expansion's lobby design provides a hotel atmosphere, underscored by the Liberty Lounge, an upscale bar and restaurant area, with wood finishes salvaged from the gymnasium floor of the former Preston County Armory.





LOGAN-MINGO READINESS CENTER

LOCATION HOLDEN, WV	SIZE 54,000 SF	COMPLETION 2015	COST \$12M	AWARDS 2017 AIA WV MERIT AWARD
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The design of the Logan-Mingo Readiness Center was developed by examining both the program and building site, and developing strategies to design a facility that is functional, responds to site, security, and aesthetic parameters, while requiring minimal maintenance.

The building layout was developed by working closely with the end users to determine the appropriate configuration of building spaces to maximize the efficiency of the operations, and to respond to the unique missions of the 150th Armored Reconnaissance Squadron and the 156th Military Police (LNO) Detachment. This was accomplished through clear separation of public and private areas within the facility, unique office configurations related to training requirements, and the addition of state-funded additional spaces.

The exterior (and in many cases, the interior) aesthetic of the facility was driven by the location of the Readiness Center within an industrial park on a reclaimed surface mined site. The decision led to the use of reinforced cast-in-place retaining walls that became both a functional and visual focus. Similar walls are used to anchor the facility at the Distance Learning Center, while a cast-in-place retaining wall and natural stone serves as a part of the Anti-Terrorism/Force Protection design.





MORGANTOWN READINESS CENTER

LOCATION	SIZE	COMPLETION	COST
MORGANTOWN, WV	54,000 SF	2013	\$22M

The Morgantown Readiness Center is a unique military facility. While supporting traditional military functions including the 1-201st Field Artillery, a significant portion of the building was designed for the 249th Army Band.

The Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas. The stage is a large rehearsal space with an adjacent elevated recording area. A large operable partition separates the auditorium from the drill hall. Acoustically, this challenge was met by creating a drill hall with an irregular shape contained within a rectilinear, sloped barrel arch form.

The facility is located on an abandoned airport runway approximately 20 miles from Camp Dawson. As troops will often travel through the Readiness Center, the facility needed to function as a "gateway." This was accomplished by utilizing similar materials and a tower-like feature to mark entry.

The Morgantown Readiness Center is also a sustainable building. The U-shaped layout of the facility improves access to daylighting and views, while also limiting public access to the Guard's administrative and storage areas. The final result is a harmonious composition that reflects both its function and the environment.





JACKSON COUNTY ARMED FORCES RESERVE CENTER

LOCATION MILLWOOD, WV	SIZE 75,000 SF	COMPLETION 2011	COST \$20M
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The building design was inspired by the adjacent Georgian-style Order of the Eastern Star facility.

The primary user for the WVARNG will be DET 1 821st Engineering Company, supported by a FSC of the 1092nd. USAR occupants include PLT AMMO 261 OD and PLT 1 (Postal) and PLT 6 (Postal) of the 44th Personnel Company. An expanded drill hall serves as a convention and meeting space. The relationship between the structures became crucial to the site layout. Once the aesthetic of the building was established, the massing of the facility was defined by breaking down the facility into smaller mass elements. The larger programmatic elements, such as the drill hall and the storage areas, employ an aesthetic that more closely implies their function.

The layout of the facility includes a main entry with the recruiting, family support, and administrative areas located on separate sides. A transverse wing houses all functions that have the potential for public use, while all primary military spaces developed along a similar perpendicular wing. This allows for separate entries to be developed for public functions, while the remainder of the facility can be secured. The layout also creates a large central courtyard, or parade field, that would be located at lower grade to define the edge facing the river. This edge is defined by a canopy that connects storage and locker areas to the expanded drill hall.





GLEN JEAN ARMED FORCES RESERVE CENTER

LOCATION GLEN JEAN, WV	SIZE 110,000 SF	COMPLETION 2004	COST \$17M
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The Glen Jean Armed Forces Reserve Center contains three distinct military functions: a facility for routine maintenance of over-the-road and tracked military vehicles, an armory housing four West Virginia National Guard units, and the Southern West Virginia Military Entrance Processing Station, where new recruits officially enter the military system.

The brick exterior walls are highlighted with limestone and metal trim accents. A large assembly hall, plus classroom and training space, enhance the ability of the armory building to provide training for military personnel, while also providing much-needed space for community functions.

The Glen Jean AFRC also employs a sloped natural-stone buffer to meet federal anti-terrorism and force protection guidelines. The project has also become an important community resource and served as a meeting location during the development of the nearby Summit Bechtel Family National Scout Reserve.





CONSTRUCTION & FACILITIES MANAGEMENT OFFICE

LOCATION CHARLESTON, WV	SIZE 19,935 SF	COMPLETION 2008	COST \$3.5M	AWARDS 2009 AIA WV MERIT AWARD
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The Construction and Facilities Management Office (CFMO) Expansion project brought all of the operations of the CFMO together under one roof.

The branches that occupy this facility include the Director of Engineering, Environmental, Planning and Programming, Facility Operations & Maintenance, Business Management, Resource Management, and Design and Construction. This expansion is located slightly to the front, and adjacent to the existing facility, lending prominence to the new construction, and providing a new aesthetic to the entire complex.

A transitional space was designed to connect the new structure to the existing facility, while maintaining a connection to the outside through use of natural light, direct visual connections to the exterior, large volumes, irregular geometries, and the use of natural materials.

The entry design was coordinated with the Recruiting and Retention Building to create an outdoor courtyard, along with new sidewalks, stairs and signage. The entry roof is sloped to provide a greater massing, while a lower canopy provides scale and protection from the elements. Large gathering and work spaces were located on the north elevation to take advantage of expanses of glazing located to capture indirect light and views of Coonskin Park.



HVAC RENOVATION EXPERIENCE



Charleston Coliseum & Convention Center (2015) – Replace entire MEP infrastructure three 1,000 ton chillers and cooling towers, three 8,000 mbh gas condensing boilers, approximately ten VAV AHU's, approximately 10 large single zone VAV AHU's.

Charleston Kanawha Health Department (2015) – Replace entire mechanical system to include air cooled chiller, gas fired make-up unit and zone fan coils with electric reheat, approximately 45,000 SF new DDC controls.

United Bank Building – Cooling Tower Replacement (2010) – Two 400 ton centrifugal chillers, rebuild two large VAV AHU's, installed free cooling plate frame heat exchangers (2015).

Kanawha County Public Library (2015) – Replaced two gas-fired boilers with new gas condensing boilers .

Building 5 Capital Complex (2008) – Replaced 10th floor office space air condition, replaced perimeter induction units with new steam chilled water air handling units, distributed VAV terminal units with modification to architectural fit out approximately 22,000 Sf. Installed new sprinkler service entrance for Buildings 5, 6, and 7.

Capitol Complex Building 5, 7th, 8th, & 9th Floors – Rebuild perimeter induction system and interior multi-zone distribution in addition to total architectural fit up, approximately 70,000 SF.

Capitol Complex Building 6, 3rd, 4th, & 5th Floors - Rebuild perimeter induction system and interior multi-zone distribution in addition to total architectural fit up, approximately 70,000 SF.

WV Lottery Headquarters Building (2014 - 2015) – Installed 40,000 SF of new variable refrigerant system, new make-up air system, comprehensive architectural services.

WV State Capitol Cafeteria – Installation of large catering and service kitchen, included steam make-up air system, 3 Class 1 kitchen hoods, Class 2 kitchen hoods, all plumbing system, sprinkler system including sprinkler service entrance for entire Capitol Buildings, comprehensive architectural services.

Old Kanawha Valley Bank Building (2003) - New cooling chiller.
(2015) - New cooling tower.

City Center East (2008) Chiller Replacement.

Tenant Fit-Up Numerous Office Buildings Charleston – BB&T Building, City Center East, United National Bank Building, Hunting National Bank Building to include VAV distribution, electrical and architectural services.

HVAC RENOVATION EXPERIENCE (CONT.)



Additional K-12 HVAC Projects:

Pleasant Hill Elementary School - HVAC Replacement
Keyser Middle School - HVAC Replacement
Huntington Herald Dispatch - HVAC Study
Walker Machinery Main Office Renovation - HVAC
Walker Diamond Office - HVAC
Walker Machinery - HVAC Renovations
State of WV – Governor's Mansion Corrective HVAC Study
Camp Dawson Regional Training Institute - HVAC
Central Regional Jail – HVAC and Roof Replacement
King of Prussia, PA – HVAC Design (Multiple Projects)
Kanawha Valley Senior Services - HVAC
Tolsia High School - HVAC Renovations
Cabell County Schools – (Multiple HVAC Projects)
Cabell County Career & Technical Center - HVAC
Cabell County Explorer Academy - HVAC
Harrisville Elementary School - HVAC
Ritchie County HS/MS - Cooling Tower Replacement
Spring Hill Elementary School - HVAC
Roane-Jackson Career & Technical Center
Salt Rock Elementary School - HVAC Renovation
Wayne County Schools – New HVAC System Projects
Greenbrier County Schools – New HVAC System Projects
Huntington High School
Cabell-Midland High School

WINDOW REPLACEMENT EXPERIENCE



WV State Office Buildings 5, 6, & 7

Cedar Lakes Conference Center

BridgeValley Community & Technical College

Cabell County Board of Education Office

Mason County Board of Education Office

General Services Administration

Tiskelwah Center

WV Rehabilitation Center

Hamlin Middle School

Hamlin PK-8 School

Culloden Elementary School

Ona Elementary School

Geneva-Kent Elementary School

Altizer Elementary School

Salt Rock Elementary School

Meadows Elementary School

Dunlow Elementary School

Peyton Elementary School

Richwood High School

Ranger Elementary School





WV STATE OFFICE BUILDINGS 5, 6, & 7

LOCATION
CHARLESTON, WV

AWARDS
2011 AIA WV MERIT AWARD

Nearly 50 years ago, ZMM (as Zando, Martin & Milstead) designed the original West Virginia State Office Buildings 5, 6, and 7.

Over the past decade, ZMM has been assisting the State of West Virginia General Services Division with various improvements to the buildings. The improvements commenced with an overall building assessment that examined the condition of the buildings, as well as cost and phasing options for implementing various upgrades. Improvements that have been undertaken have ranged from substantial renovations to maintenance and repair projects, and include:

Major Renovations: ZMM Architects & Engineers provided design services for the renovation of the 10th Floor of Building 5 for the Office of Technology - a project that was recognized with a design award from the West Virginia Chapter of the American Institute of Architects. The project focused on demonstrating the potential that exists in State Office Buildings 5 and 6 if the floors are renovated in a more contemporary manner that moves the open office spaces to the perimeter, and pulls the offices adjacent to the building core. The project also involved close coordination with the State Fire Marshal, the introduction of a sprinkler service and fire pump into the building, demolition, hazardous material abatement, and FF&E coordination. The project was delivered considerably under the anticipated project budget.



WV State Office Buildings 5, 6 & 7 (cont.)

The next phase of the renovation involved floors 7, 8, and 9 of Building 5 and floors 7 and 8 of Building 6. All of these floors have been fully renovated, including abatement, demolition, new construction, and updated life safety systems. ZMM has also provided design services for the renovation of the 2nd, 3rd, and 4th Floors of Building 6 for the Department of Education and Division of Personnel.

Roof Replacement: ZMM assisted the General Services Division with a roof replacement for all three buildings, utilizing a white EPDM roofing material, with consideration being given to sustainability. The existing ballast, roof membrane, and rigid insulation were also salvaged as part of the roof replacement project. Several unused mechanical penthouses, antennas, and other abandoned equipment were also removed.

Electrical Courtyard Improvements: ZMM Architects & Engineers assisted the General Services Division with a project to expand the electrical courtyard adjacent to Building 7, and simultaneously improve the electrical service entry to buildings 5, 6, and 7. This project required both historical (matching the existing granite panels), as well as very technical electrical engineering design considerations.

Door and Window Replacement: ZMM has assisted with two separate projects, one to replace the windows in Buildings 5 and 6, and the second to replace the doors at the entries to Buildings 5, 6, and 7. The window replacement included over 1,200 windows, as well as decorative extruded metal screen. These projects included building envelope and security considerations. The projects were designed and staged to minimize disturbance to the buildings' occupants.

Caulk Replacement: ZMM provided design services to remove and replace all of the caulk located between the limestone and precast panels on the exterior of Buildings 5, 6, and 7. The project also included cleaning of the building's exterior along with some repair work. The project was coordinated with the Capitol Building Commission.

Valve Replacement: ZMM assisted with a valve replacement project to isolate mechanical risers in Building 5 and 6. This technically intensive mechanical project gave the General Services Division greater control over the system, and helped to isolate various risers in the event of significant system failures in the future.





WEST VIRGINIA STATE CAPITOL

LOCATION
CHARLESTON, WV | COMPLETION
2007-2021

ZMM Architects & Engineers has completed a variety of improvement project to the State of West Virginia Capitol Building.

The improvements included a renovation to the lower-level food court, a roofing replacement, toilet renovations, and various HVAC improvements – including a project to increase safety during the Covid-19 pandemic. The food court renovations included a full-service kitchen, self-serve area, and seating for 300 people. ZMM worked with a kitchen consultant and provided demolition drawings, base architectural, mechanical, and electrical drawings. The project also included the design of the first phase of a wet pipe sprinkler system. In addition, ZMM also provided the documents to replace the Capitol medium-voltage transformers. ZMM met a stringent timeline for a critical construction completion date.

ZMM replaced the roof of the Capitol Building, which included the main buildings, connectors, and base of the dome. All roof system components were reviewed for integrity and ability to control moisture collection and removal. The components included in the project were parapet walls, railings, wall conditions, colonnades, roof penetrations, roof drains, roof equipment, and walking surfaces. Additional projects included improvements to the Senate toilets, a report that mapped all of the mechanical equipment in Capitol Building, and various mechanical improvements to make portions of the Capitol more safe for occupants during the pandemic.





CHARLESTON COLISEUM & CONVENTION CENTER

LEED
SILVER

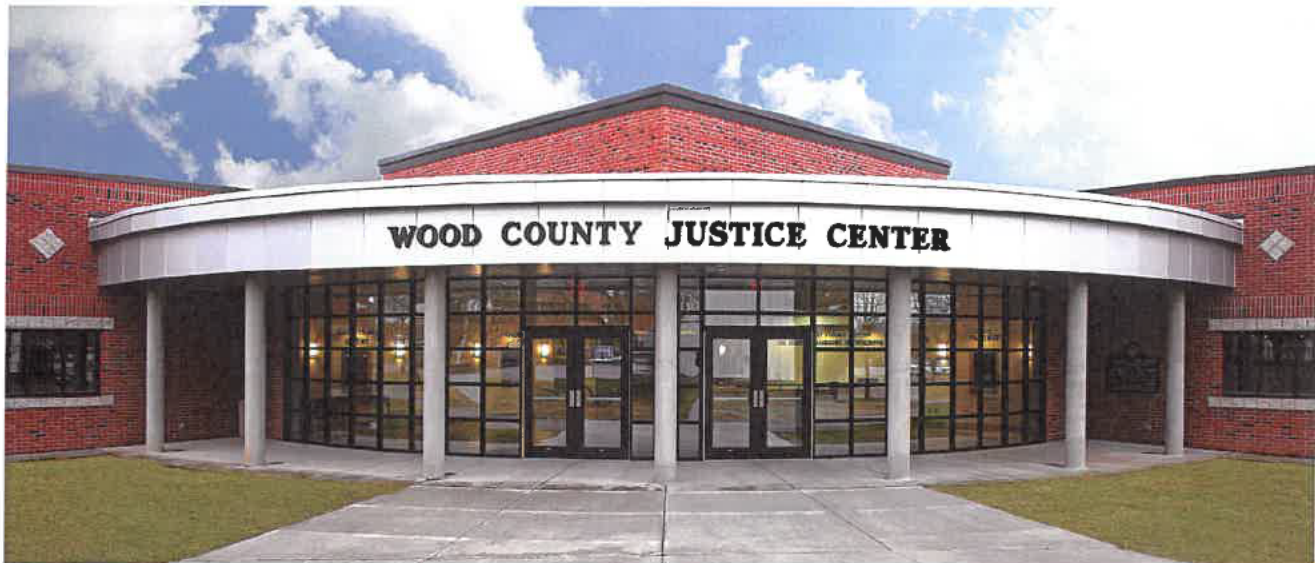
LOCATION CHARLESTON, WV	SIZE 283,000 SF	COMPLETION 2018	COST \$100M	AWARDS 2019 AIA WV HONOR AWARD, CITATION & PEOPLE'S CHOICE AWARD
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The Charleston Coliseum & Convention Center expansion and renovation was a transformational project for both the city of Charleston and West Virginia.

Our team built on the strong authentic character of Charleston to remake the Charleston Convention Center into a more efficient, sustainable, dynamic, and iconic best-in-class destination.

The design of the expansion and renovation of the Charleston Convention Center was inspired by the story of West Virginia. Defined by a rugged landscape, the early history of the state was dominated by extractive industries: salt, coal, timber, and trapping. This set the local character. Our design started with an organizational concept inspired by this history. The Convention Center has distinct active nodes to celebrate each activity; arena, convention, and banquet. These nodes are connected like the hills and cut-rock faces that are seen throughout the state, as people work to connect to each other through the landscape. The first critical design objective was to create separate entries and identities for the arena and convention center. This allowed for simultaneous events and clarity of use. For the Convention Center to thrive, it needed a real ballroom assembly space. Located overlooking the Elk River, the ballroom pre-function space is the most dramatic feature of the center.





WOOD COUNTY JUSTICE CENTER

LEED
CERTIFIED

LOCATION PARKERSBURG, WV	SIZE 32,000 SF	COMPLETION 2011	COST \$5M
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This project was an extensive renovation of a 15-year-old, 32,000 SF, single-story office building located in downtown Parkersburg, West Virginia.

The building was purchased by the Wood County Commission with the purpose of bringing together three government functions that had outgrown the three separate buildings that they occupied.

The renovated building consists of offices and three courtrooms for the county's Magistrate Court system, public service windows for document pickup and payment of fines, offices for the Sheriff's Department and Home Confinement, and a 12-hour inmate holding center.

Due to the building's new use, the interior was completely demolished, leaving only the shell. The building's main entrance was relocated and redesigned to provide a new, more prominent identity to the building and to align with the new parking area created by the demolition of the adjacent existing magistrate court building. The old HVAC system was removed and replaced with a more energy-efficient system and energy-efficient lighting was installed. The project was designed around the U.S. Green Building Council's New Construction and Major Renovation Guidelines and has achieved LEED Certification.





TUCKER COUNTY COURTHOUSE ANNEX

LOCATION PARSONS, WV	SIZE 21,000 SF	COMPLETION 2013	COST \$4M
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The Tucker County Courthouse Annex is a four-story, 21,000 SF building located adjacent to the Tucker County Courthouse in Parsons, WV.

The annex sits on the same lot as the courthouse, with the original jailor's residence between the two. The location of the jailor's residence, which is listed on the National Register of Historic Places, created a challenging dilemma. ZMM explored three options for developing the courthouse annex. The first option anticipated connecting the annex at multiple levels via a connector, although the jailor's residence appeared like a building stuck within a larger complex. ZMM also explored relocating the jailor's residence, an approach that proved not feasible. The solution that was implemented involved adding a separate elevator to the existing courthouse and connecting the entry to the two facilities with an enclosed single-level connector. Offices and courtroom spaces occupy the upper three floors, with enclosed parking on the ground floor.

The architecture of the annex is meant to complement the existing Romanesque and Flemish styles of the courthouse and jailor's residence. The red brick, stone base, brick banding, arched openings, and sloped rooflines help to create a unified feel, while the wall of glass adjacent to the public corridor that overlooks the courthouse brings a touch of modernity to the campus and provides natural light to the interior of the building.



Adam R. Krason, AIA, LEED AP, ALEP



Role

Principal

Professional Registrations

Registered Architect (WV, OH, KY, VA, MD, NJ)
LEED Accredited Professional
Accredited Learning Environment Professional
NCARB [REDACTED]
Construction Specifications Institute (CSI)
Construction Documents Technician (CDT)

Mr. Krason has served in the capacity of Architect and Project Manager for a variety of projects at ZMM. This experience includes Military, Educational (K-12 and Higher Education), Office, Justice (Courthouses, Correctional, Justice Centers), and Multi-Unit Residential projects. Mr. Krason's responsibilities include programming, design, documentation, coordination of the architectural and engineering team, as well as construction administration. Mr. Krason began his career in 1998, working on a variety of educational, commercial office, and correctional projects throughout Ohio, West Virginia, and North Carolina.

Mr. Krason has been an advocate of sustainable design in West Virginia, participating in a variety of sustainable design seminars throughout the State, and serving on the West Virginia School Building Authority Green Schools Sub-Committee. Recently, Mr. Krason helped coordinate the "Making the Business Case for Sustainability" conference at the University of Charleston that included speakers from Armstrong Industries, American Electric Power, CB Richard Ellis, and Interface Raise. Mr. Krason also assisted Habitat for Humanity Kanawha and Putnam County develop a commercial recycling program to fill a void in the sustainable design infrastructure in West Virginia. Mr. Krason has noted that, "I became a LEED Accredited Professional because I believe that good design has value, and the ability to impact our daily lives. Sustainable design showcases the value of design through demonstrated improvements in the performance of the students and employees who occupy our buildings." In addition to his design and project management responsibilities, Mr. Krason serves on the Board of Directors and is responsible for business development at ZMM.

Project Experience

Joint Interagency Training & Education Center (WVARNG), Kingwood, WV Mr. Krason was responsible for the preliminary programming, and participated in the schematic design of the 180,000 SF addition to the Regional Training Institute at Camp

Education

Bachelor of Architecture, The Catholic University of America, 1998

Bachelor of Civil Engineering, The Catholic University of America, 1997

Employment History

2007 - Present, Principal, ZMM
2007 - Present, Board of Directors, ZMM
2003 - Present, Architect, Project Manager, ZMM
1998 - 2003, Architect, Project Manager, Charleston Area Architectural Firm

Civic Affiliations

- WV American Institute of Architects, President
- Habitat for Humanity Kanawha & Putnam County, Board of Directors 2011 - 2014
- WV Qualification Based Selections Council, President, 2012/2013
- Leadership WV 2010 - 2012
- Charleston Rotary
- West Side Main Street, Board of Directors 2008 - 2014
- City of Charleston Land Trust 2008 - 2014

Dawson. Mr. Krason was also responsible for managing the production effort for the billeting (hotel) expansion, which increased the total billeting capacity at the JITEC to 600 rooms. This project received LEED Gold Certification.

Jackson County AFRC (WVARNG), Millwood, WV

Mr. Krason was the principal on the new facility that houses both the West Virginia Army National Guard (WVARNG) and the United States Army Reserves (USAR). The facility also includes an expanded Drill Hall that can serve as a convention and meeting space, which is being funded by the Jackson County Commission, additional federal appropriations, and the State of West Virginia National Guard. A transverse wing on the left houses all functions that have the potential for public use, such as the Drill Hall and the Educational component, while all primary military spaces developed along a similar perpendicular wing on the right. This allows for separate entries to be developed for public functions, while the remainder of the facility can be secured.

Morgantown Readiness Center (WVARNG), Morgantown, WV

Mr. Krason was the project architect on the new Morgantown Readiness Center. This facility is a unique due to its location on an abandoned airport runway at the Morgantown Municipal Airport. The 54,000 SF Readiness Center occupies a 35-acre tract at the airport. This center supports traditional military functions including the 1-201st Field Artillery. A significant portion of the Morgantown Readiness Center supports the 249th Army Band. The Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas.

Claudia L. Workman Fish and Wildlife Education Center Alum Creek, WV

Mr. Krason is currently the principal on the new Claudia L. Workman Fish and Wildlife Education Center, the 7,000 SF building is nestled in the beautiful West Virginia landscape. The building layout concentrates on both the visitor and user experience while creating a dynamic space to celebrate some of West Virginia's greatest natural treasures. One of the key concepts of the building is to represent our wild and wonderful state by incorporating natural materials such as stone, a variety of woods, and other natural finishes. The building is set to open this year.

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Krason served as principal-in-charge of the expansion and renovation to the Charleston Civic Center. The \$75M, 283,000 SF design-build project is being completed as a collaboration with tvsdesign and BBL Carlton. Mr. Krason was responsible for the overall management of the design team, coordination with the client, and also has input critical project management decisions. The design commenced in the spring of 2015, and construction was complete in 2018.

Beech Fork State Park, Lavalette, WV (unbuilt)

Mr. Krason was the principal for new lodge and conference center at Beech Fork State Park. The facility will include guestrooms and other guest-only facilities in one area and public functions such as the restaurant, lounge, gift shop, and conference rooms in another area. All guestrooms offer a lake view, a 2-story atrium opens up each end of the lobby with curtain-wall glazing, and an indoor pool provides a transparent connection to the outdoors. A high-performance envelope was designed to eliminate thermal bridging and the potential for condensation.

Ravenswood Middle School, Ravenswood, WV

Mr. Krason was the principal on the new addition to the middle school that included 40,000 SF to accommodate 360 students in grades 6-8. In addition to the new middle school, upgrades were also made to the existing high school. These improvements include the replacement of the HVAC system, ceiling, and lighting replacement, as well as minor interior and finish upgrades. The \$14M project was completed and occupied in time for the 2019-2020 academic year.

Participated on the team that won the following awards and acknowledgements:

2020 WV AIA Merit Award Mountain Valley Elementary School, Green Valley, WV

2019 WV AIA Honor Award Charleston Coliseum & Convention Center, Charleston, WV

2018 WV AIA Citation Award Charleston EDGE, Charleston, WV

2017 WV AIA Merit Award Logan-Mingo Readiness Center, Holden, WV

Nathan Spencer, AIA



Role

Project Architect

Professional Registrations

Registered Architect (WV)

Mr. Spencer is responsible for coordinating the efforts of the design team in preparing thorough and clear design documents. He has experience in all phases of design working on a wide range of building types including; military, educational, office, justice, and residential.

He has worked on several projects that are currently pursuing LEED certification. In addition to production, Mr. Spencer, is also experienced in 3d modeling. He has worked on several preliminary concept study models as well as high quality renderings and 3d models later in the design process. Mr. Spencer is also experienced in high quality physical models.

Mr. Spencer began his career in architecture with ZMM in 2003, working as a summer intern. After graduating in 2003, he began working at ZMM full time.

Project Experience

Logan-Mingo Readiness Center, Holden, WV

Mr. Spencer was the architect on the new Logan-Mingo Readiness Center. The exterior aesthetic of the facility was driven by the location within an industrial park on a reclaimed surface mined site. The building layout was developed by working closely with the end-users to determine the appropriate configuration of building spaces to maximize the efficiency of the operations, and to respond to the unique missions of the 150th Armored Reconnaissance Squadron and the 156th Military Police (LNO) Detachment. Clear separation of "public" and "private" areas within the facility, unique office configurations related to training requirements, and the addition of State Funded additional spaces.

Jackson County AFRC, Millwood, WV

Mr. Spencer participated in the schematic design of the 76,000 SF Reserve Center in Jackson County, West Virginia. Mr. Spencer was also responsible for coordinating the production effort for the project. Mr. Spencer also produced several 3D models throughout the design process. The project is aiming for LEED Silver Certification.

Education

Bachelor of Architecture, University of Tennessee, 2007

Employment History

2009 - Present, Architect, ZMM
2007 - 2009, Intern Architect, ZMM
2003 - 2007, Summer Intern, ZMM

Civic Affiliations

- American Institute of Architects, Member

Joint Interagency Education and Training Center (WVARNG), Kingwood, WV

Mr. Spencer participated in the schematic design of the 180,000 SF addition to the Regional Training Institute at Camp Dawson. Mr. Spencer was also responsible for coordinating the production effort for the billeting (hotel) expansion, which increased the total billeting capacity at the JITEC to 600 rooms. This project received LEED Gold Certification.

Morgantown Readiness Center, Morgantown, WV

Mr. Spencer was a member of the production team for the 58,000 SF project, which housed the Army Band and associated performance spaces. Mr. Spencer also produced several 3d models throughout the design process. He also participated on all production work through all phases. The project is aiming for LEED Silver Certification.

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Spencer served as project architect on the expansion and renovation to the Charleston Civic Center. The \$75M, 283,000 SF design-build project is being completed as a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was completed in 2018.

Tucker County Courthouse Annex, Parsons, WV

Mr. Spencer was the project architect for the Courthouse Annex renovation project. The Annex is a 4-story 21,000 Square Foot building that is adjacent to the Tucker County Courthouse. The annex will house spaces for the Circuit Court, Circuit Clerk, Family Court, Magistrate Court, Prosecuting Attorney, County Commission, County Clerk, Community Corrections, and Probation Office.

Judge Black Courthouse Annex, Parkersburg, WV

Mr. Spencer assisted with the design and programming of the adaptive reuse of a former commercial space and movie theaters into a modern courthouse annex. The Judge Black Annex included two independent circulation paths – a secure entry and lobby for access to the Family Court and Prosecuting Attorney, and public access to the Assessor and Sheriff's Tax Department. The facility also houses several large public meeting rooms.

Beech Fork State Park, Lavalette, WV (unbuilt)

Mr. Spencer was the project architect for the new lodge and conference center at Beech Fork State Park. The facility will include guestrooms and other guest-only facilities in one area and public functions such as the restaurant, lounge, gift shop, and conference rooms in another area. All guestrooms offer a lake view, a 2-story atrium opens up at each end of the lobby with curtainwall glazing, and an indoor pool provides a transparent connection to the outdoors. A high-performance envelope was designed to eliminate thermal bridging and the potential for condensation.

Cabell County Bus Transportation Complex, Huntington, WV Mr. Spencer was the project Architect on the Cabell County Transportation Complex is located on the site of the old Cox Landing Junior High School. Challenges on the project involved retrofitting the old school and site to accommodate the new use. The rear portion of the school was demolished to make room for the new maintenance portion of the building. The remaining front section of the school was renovated to include office space, storage areas, and a new staff development room. The new maintenance area includes a high-bay metal building with 14 back to back work-bays, three of which have hydraulic bus lifts. A hand wash bay and a state of the art automatic wash bay were also included in the project. Extensive sitework was also involved in the retrofit project including a fueling station, bus parking, a sediment pond, and an extensive rework of the existing site utilities.

Highland Hospital, Charleston, WV

Mr. Spencer was the project architect on Highland Psychiatric Hospital. Mr. Spencer was responsible for coordinating the production effort for the 60,000+ SF mental health facility. Mr. Spencer also produced several 3-D models throughout the design process. This project consisted of 87,300 SF, \$26M addition to Highland Hospital in Charleston. The addition included: administrative offices, training spaces, 165 patient beds, nurses' stations, an out-patient treatment department, pharmacy, laundry, and building service spaces. A pedestrian bridge will connect the new facility to the existing hospital.

Robert Doeffinger, PE



Role
Engineering Principal

Professional Registrations

Professional Engineer (WV, VA, PA, OH, TN, KY, NY, NH, ME, NC, SC, FL, NJ, GA)

As ZMM's Principal Engineer, Mr. Doeffinger is in charge of the engineering disciplines, it is his responsibility to ensure that the mechanical and electrical engineering components of ZMM's design are coordinated and integrated into the final product.

After graduate school in Architectural Engineering, Mr. Doeffinger joined ZMM. He has over 35 years design experience in mechanical and electrical systems for buildings. He has a broad range of engineering experience in education, industrial and manufacturing facilities, large retail, correctional and jails, office buildings, and military facilities.

Mr. Doeffinger is responsible for new design and retrofit of chilled water systems for all building types including large regional shopping malls. He is involved daily with the firm's selection of appropriate systems for all building types and performs life-cycle cost analysis and energy studies.

Mr. Doeffinger is a member of the American Society of Heating, Ventilation and Air-Conditioning Engineers. He is the current national Chairman of the Technical Committee on Heating and Air-Conditioning Load Calculation. He is involved in writing the National Standard on the Method of Calculation, which will shape the nature of the future building energy use for the nation.

Project Experience

Marshall University - Smith Hall, Huntington, WV

There was an existing dual duct (hot deck / cold deck) HVAC system, served by a single AHU with chilled water and electric heat in the basement of the building. All of the existing dual duct dampers and thermostats were pneumatic, and most were non-functional. The existing AHU had recently been retrofitted with a modulating multiple fan system. The owner had been receiving multiple complaints regarding temperature and humidity control within the building. Smith Music Hall is comprised of classroom spaces, office spaces, rehearsal spaces, and the building housed quite a few pieces of expensive musical equipment.

Education

Master of Science Architectural Engineering, Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering, West Virginia University, 1973

Employment History

2005 - Present, President, ZMM

1976 - 2005, Vice President and Engineering Principal, ZMM

Civic Affiliations

- ASHRAE – Member of the Technical Committee Load Calculations Data and Procedures for 15 years, serving as chairman. Presently Chairman of the Research Subcommittee
- Advisory Board for the Department of Electrical Engineering Technology, Bridgemont Community and Technical College
- City of Pt. Pleasant, WV – 2nd Ward Councilman for 20 years

ZMM chose to have all of the hot deck ductwork demolished, and new VAV terminal units with SCR electric reheat were provided within the reused, resealed, reinsulated cold deck ductwork. Additional zones were added for occupant thermal comfort, and the majority of the existing low pressure ductwork was reused. The existing electric heater (hot deck) in the AHU was removed, and a smaller electric duct heater was installed in the discharge ductwork since reheat was being provided at the new VAV boxes. ZMM provided a gas-fired, duct mounted humidifier for humidity control. New Building Automation controls were added and connected to the existing campus system. The AHU was changed from constant volume, to true variable air volume control, saving a significant amount of fan energy for the owner. In addition to the HVAC upgrades listed above, the building acoustics were improved by providing sound absorbing panels, and sound absorbing paint within the existing rehearsal spaces. A majority of the existing ceilings were replaced, and the majority of the lighting was upgraded to LED.

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Doeffinger was the mechanical project engineer on the expansion and renovation to the Charleston Civic Center project. The \$75M, 283,000 SF design-build project was a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was completed in October 2018. The mechanical design is expected to reduce the energy requirements defined by ASHRAE 90.1-2013 by an estimated 25% and extensive water savings will be shown. The project includes a new chilled and hot water central plant with extensive replacement and upgrades to the facilities existing mechanical systems. Multiple phases of construction will allow the Civic Center to remain operational throughout the construction progress.

State Office Buildings #5, 10th Floor Charleston, WV Mr. Doeffinger was the Project Engineer for this renovation project. The renovation of the tenth floor of State Office Building #5 on the State of West Virginia Capitol Campus was recently completed for the Office of Technology. The renovation was designed to meet the United States Green Building Council's LEED for Commercial Interiors standard. The renovations also include a low profile cable management system which maximizes the flexibility of the space. To commence the project, ZMM conducted a detailed investigation of State Office Buildings 5, 6, & 7, which included recommendations for improvement of the facilities. The renovation of the 10th floor of Building #5 was the first major interior renovation project that responded to the recommendations.

West Virginia Army National Guard, Joint Interagency Training & Education Center, Camp Dawson, WV Mr. Doeffinger was responsible for the mechanical engineering design of the 600 room billeting expansion to the Regional Training Institute at Camp Dawson. The project is served by a 4 - pipe hot and chilled water system with an energy recovery ventilation system. This project received LEED Gold Certification.

West Virginia Research, Education, and Technology – Building 704, South Charleston WV Mr. Doeffinger is the engineering principal-in-charge of preparing a life safety analysis of the building as well as design services to improve the exterior façade of Building 704 at the WV Research, Education, and Technology Park. Building 704 had previously been utilized as a campus maintenance facility by Union Carbide and DOW Chemical. Bridgemont began utilizing the facilities for instruction in the Spring of 2011.

NGK Oxygen Sensor and Spark Plug Plant, Sissonville, WV Mr. Doeffinger was in charge of engineering design of the 250,000 SF NGK facility. The most recent 130,000 SF expansion moved NGK's spark plug production for the west coast to West Virginia. For both the oxygen sensor plant and spark plug plant Mr. Doeffinger designed a cycle water system for the manufacturing equipment.

The Plaza at King of Prussia, Pittsburgh, PA One of the largest retail centers in the east. Mr. Doeffinger has performed engineering services for the past 20 years. The project consists of a 5,000 -ton chilled water plant and 1,500,000 cfm variable volume system for tenants and constant volume air system for common areas and an engineered smoke control system. The most recent project is a 2011, 100,000 square foot expansion of tenant spaces, a renovation of the food court, and a 1,250-ton chiller addition to the central chilled water plant.

John Pruett, PE, LEED AP



Role

Senior Mechanical Engineer

Professional Registrations

Professional Engineer (WV, VA, IN)

LEED Accredited Professional

Mr. Pruett is responsible for overseeing the design of the HVAC systems, ensuring that the HVAC systems not only meet the program requirements, but meet the long-term needs of the owner. He performs heating and cooling load calculations and recommends the type of systems to be incorporated into the building. He coordinates with the other disciplines in order to integrate the HVAC systems into the building. Mr. Pruett has participated on several LEED registered projects; one of his key contributions to these projects is conducting energy analyses and recommending energy use reduction alternatives.

Mr. Pruett began his career in engineering with a manufacturing company in 1994. In 1998, he made a career change and joined an engineering consulting firm as an HVAC design engineer. He has a broad range of experience in HVAC systems design, including K-12 schools, higher education facilities, office buildings, libraries, hotels, restaurants, a convention center and several natatoriums. Having served in the Marines for 14 years, Mr. Pruett also led a design team for a "virtual memorial" for the birthplace of the U.S. Marine Corps.

Project Experience

WWARN Camp Dawson Building

WWARN Camp Dawson Building 246

WWARN Camp Dawson Building 301

WWARN Camp Dawson Mail Facility

WWARN Marshall County Readiness (Design)

WWARN Camp Dawson Job Challenge Academy

Wood County Justice Center, Parkersburg, WV Mr. Pruett was responsible for the HVAC systems design for the LEED Silver project comprised of the judicial courts, Sheriff's department and holding cell area. The project utilizes high-efficiency custom air handling units, including an energy recovery unit for the holding cell area, which has helped reduce energy consumption on the project by 18% compared to a baseline analysis.

Tucker County Courthouse Annex, Parsons, WV

Mr. Pruett was the Mechanical Engineer for the Courthouse

Education

Bachelor of Science, Purdue
University, West Lafayette, IN, 1993

Employment History

2021- Present, Board of Directors, ZMM

2010 - Present, Project Engineer, ZMM

2007 - 2009, Sr. Mechanical Engineer,
IN

2003 - 2007, Mechanical Engineer, IN

1999-2003, Project Engineer, Fort
Lauderdale, FL

Civic Affiliations

- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Member
- United States Marine Corps – 14 Years

Annex renovation project and responsible for the HVAC systems. The Annex is a 4-story, 21,000 Square Foot building that is adjacent to the Tucker County Courthouse. The annex will house spaces for the Circuit Court, Circuit Clerk, Family Court, Magistrate Court, Prosecuting Attorney, County Commission, County Clerk, Community Corrections, and Probation Office.

Huntington East Middle School, Huntington, WV Mr. Pruett was responsible for the HVAC systems design. This school features numerous sustainable features, including an air monitoring system for verifiable indoor air quality, variable refrigerant flow (VRF) systems for portions of the school that will operate year-round, preheating of the domestic hot water with the heating hot water return. Mr. Pruett also conducted an extensive energy analysis of the building and all of its systems to maximize the effect of each component, resulting in a projected reduction in energy consumption of 32% compared to a baseline analysis.

Edgewood Elementary School, Charleston, WV Mr. Pruett was the mechanical engineer on the new Kanawha County Elementary School on Charleston's West Side and responsible for the HVAC systems design. The school is being designed as a 21st Century Learning Environment, with a focus on integrating technology into the delivery of the curriculum. Instructional areas will be located off of an open 'exploratorium' that is being designed to function like a children's museum, providing a variety of learning opportunities, and flexible educational spaces. The school will also visibly integrate sustainable design principles to serve as a teaching tool for the students.

Cabell County Schools

Barboursville Middle School - Additions and Renovations
Huntington East Middle School
Huntington High School - Controls system replacement for Explorer Academy
Cabell County Bus Garage
Southside Elementary/Huntington Middle School
Huntington High School – Cooling tower replacement
Cabell Midland High School - Cooling tower replacement
Martha Elementary School- Addition
Salt Rock Elementary Renovations
Cabell County Career & Technical Center – HVAC Replacement
Huntington High School Wrestling Room Addition
Milton PK - Additions and Renovations

Fayette County Schools

New River Primary / Oak Hill Middle School
Valley High School - Gym addition
Oak Hill High School – Renovations
Fayetteville PK-8 - Renovations
Midland Trail High School - Renovations
Valley PK-8 - Renovations
Meadow Bridge Elementary - Renovations
Divide Elementary - Additions and Renovations

Putnam County Schools

Hurricane High School - Renovations
Putnam Career & Technical Center – Welding Shop

Valley Health Systems, Wayne, WV

Mr. Pruett was the mechanical engineer on the new health clinic in Wayne, WV. ZMM prepared construction documents for a new, one-story medical building operated by Valley Health Systems of Huntington, WV. The building is 15,580SF on a 2-acre site including approximately 100 parking spaces. Valley Health Systems provides primary and preventative care to the medically underserved population of southern West Virginia. The new building will replace an existing undersized facility.

Michael J. White, PE



Role

Structural Engineer

Professional Registrations

Professional Engineer (WV, KY, IN, TN, OH, SC)

Mr. White has more than 10 years of Civil/Structural design and engineering experience. Project experience includes new construction and renovation work involving the design and analysis of reinforced concrete, wood, structural steel, masonry and cold formed steel.

Project Experience

New River Primary, Oak Hill, WV
Oak Hill Middle School, Oak Hill, WV
Bluefield Primary School, Bluefield, WV
Williamstown Elementary School, Williamstown, WV
Wood County Technical Center, Parkersburg, WV
Milton PK School, Milton, WV
Midland Trail High School, Hico, WV
CAMC Teays Clinic, Teays Valley, WV
Appalachian Regional Hospitals – DA Tank, Beckley, WV
Appalachian Regional Hospitals Pharmacy, Beckley, WV
Rainelle Medical Center, Rainelle, WV
Valley Health, Milton, WV
Valley Health, Huntington, WV
Mountain State Oral and Facial Surgery, Charleston, WV
Valley Park Community Center, Hurricane, WV
WVDNR Forks of Coal, Alum, WV
Marshall County Readiness Center, Moundsville, WV

Other Jobs from Past Employers:

WVU Parkersburg Center for Early Learning - Parkersburg, WV
WVU Parkersburg Applied Technology Center - Parkersburg, WV
Marsh Fork Elementary School - Naoma, WV
BridgeValley Advanced Technology Center - South Charleston, WV
New River Community and Technical College Headquarters Building - Beaver, WV
Lewisburg Elementary School - Lewisburg, WV
Rainelle Elementary School - Rainelle, WV
Boone County Honors Academy Addition - Madison, WV
Monongalia County Justice Center - Morgantown, WV
Lewis Co. Judicial Annex - Weston, WV
Charleston Correctional Work Release Center - Charleston, WV
Stevens Correctional Facility - Welch, WV

Education

B.S., Civil Engineering, West Virginia University Institute of Technology, Montgomery, WV, 2006

Employment History

2016 - Present, Structural Engineer, ZMM
2016, Civil/Structural Lead, Jacobs Engineering Group
2013 - 2016, Structural Engineer, Chapman Technical Group
2010 - 2013, Structural Engineer/Project Manager, Moment Engineers
2007 - 2010, Structural Engineer/Project Manager, Advantage Group Engineers, Inc. (Cincinnati, OH)

Grant H. White, PE



Role
Electrical Engineer

Professional Registrations
Professional Engineer (WV)

Mr. White brings more than 14 years' experience and serves as the Electrical Engineer at ZMM. Mr. White provides electrical design services for a vast number of projects consisting of commercial, educational, correctional, institutional, and military facilities.

Mr. White is responsible for many facets of the project pertaining to electrical design such as interior and exterior lighting, power distribution, data system design, security, fire alarm, low voltage control systems, equipment specifications and performs electrical assessments during construction prior to the project's substantial completion date.

Project Experience

Keith Albee Theater - Renovations, Huntington, WV
WV School of Osteopathic Medicine, Lewisburg, WV
Braxton County Cooler Freezer
Jefferson County Schools – Transportation Technology Center
Jefferson County Schools – Ranson Elementary School
Jefferson County Schools – Sheperdstown Elementary School
Jefferson County Schools – Washington High School Aux Gym
Woodrow Wilson High School Renovations/Additions
Braxton County Middle School Renovations
WVDNR Tomblin Wildlife Management
Frederick County Public Schools -Old Aylor Middle School – HVAC Renovations
Frederick County Public Schools Board Office – Corridor and Restroom Renovations

Education

Marshall University Graduate College,
South Charleston, WV – Completed
Project Management and Engineering
Law classes in the Engineering
Management Program, 2007 - 2008

Bachelor of Science in Electrical
Engineering, West Virginia University
Institute of Technology, 2007

Employment History

2021 - Present, Electrical Engineer, ZMM
2018 – 2021, Electrical Engineer, CDI
Engineering
2017 – 2018, Controls Engineering
Specialist, Trane
2014 – 2017, Electrical Engineer, CDI
Engineering



Role

Construction Administrator

Mr. Gonzales describes his role with ZMM as Construction Administrator as an exciting and challenging opportunity with new experiences every day. From varying jobsite conditions to the differing professionals, he works with daily, Mr. Gonzales approaches construction administration with over 40 years' experience in the construction industry and the desire to help provide the best outcomes possible for each project.

Mr. Gonzales prior to coming on board with ZMM oversaw the CAD/BIM coordination and design of major projects in the Columbus area. Facebook Data Center, OSU Wexner Cancer Hospital, OSU NDRT Student Housing Project to just name a few. Mr. Gonzales oversaw the 3D BIM modeling and coordination of these projects. He was responsible for ensuring that all trades were coordinated in model space therefore allowing trades to go to fabrication/installation once model was "Clash Free".

Mr. Gonzales project variety includes Educational (K-12 and University), Commercial, Military, Office, Justice (Courthouses, Justice Centers), Healthcare (Health Departments), Roof replacement projects.

Project Experience

CAMC Chiller Replacement, Charleston, WV
Hurricane High School Addition, Hurricane, WV
Charleston Coliseum & Convention Center, Charleston, WV
Boone County Roof Replacement Project, Boone, WV
Nicholas County Roof Replacement Project, Summersville, WV
Summers County High School HVAC, Summersville, WV
Summers County Bus Garage Renovations, Summersville, WV
WVSOM Greenspace Renovation Project, Lewisburg, WV
Calhoun County Pleasant Hill Elementary HVAC Equipment Replacement Project
Wood County Bell Tower Roof Addition, Parkersburg, WV
Christ Church United Methodist, Charleston, WV
Girl Scouts of Black Diamond Council, Charleston, WV
WVDNR Claudia Workman Fish and Wildlife Education Center, Alum Creek, WV

Education

Associate Degree Mechanical Engineering, Pittsburgh Technical Institute 1978

Employment History

2018 - Present, Construction Administrator, ZMM



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

Proc Folder: 995514

Doc Description: Clarksburg Armory Windows & HVAC Renovations EOI

Reason for Modification:

Proc Type: Central Purchase Order

Date Issued

Solicitation Closes

Solicitation No

Version

2022-01-21

2022-02-08 13:30

CEOI 0603 ADJ2200000009

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BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON WV 25305

US

VENDOR

Vendor Customer Code:

Vendor Name : ZMM Architects & Engineers

Address : 222 Lee Street, W.

Street :

City : Charleston

State : WV

Country : USA

Zip : 25302

Principal Contact : Adam Krason

Vendor Contact Phone: 304.342.0159

Extension: 234

FOR INFORMATION CONTACT THE BUYER

David H Pauline

304-558-0067

david.h.pauline@wv.gov

Vendor
Signature X

FEIN# 550676608

DATE February 8, 2022

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.

ARK, PRINCIPAL
(Name, Title)
Adam R. Krason, Principal
(Printed Name and Title)
222 Lee Street, W. , Charleston, WV 25302
(Address)
(304) 342-0159 (304) 345-8144
(Phone Number) / (Fax Number)
ark@zmm.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

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.

ZMM Architects and Engineers
(Company)

ARK ADAM R. KRASON, PRINCIPAL
(Authorized Signature) (Representative Name, Title)

Adam R. Krason, Principal
(Printed Name and Title of Authorized Representative)

February 8, 2022
(Date)

(304) 342-0159 (304) 345-8144
(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: ZMM Architects and Engineers

Authorized Signature:  Date: February 8, 2022

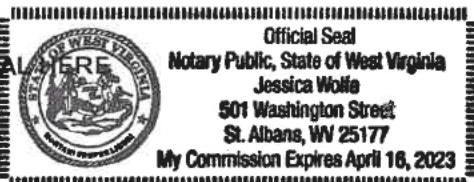
State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 8 day of February, 2022.

My Commission expires April 16th, 2023.

AFFIX SEAL HERE



NOTARY PUBLIC



Purchasing Affidavit (Revised 01/19/2018)