



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

State of West Virginia  
 Centralized Expression of Interest  
 02 - Architect/Engr

Proc Folder: 236636

Doc Description: Addendum 1- Window Replacement for Armories EOI Design

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2016-08-17	2016-09-01 13:30:00	CEOI 0603 ADJ1700000003	2

**BID RECEIVING LOCATION**  
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 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
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 CHARLESTON WV 25305  
 US

**VENDOR**  
 Vendor Name, Address and Telephone Number:

09/01/16 12:21:23  
 WV Purchasing Division

**FOR INFORMATION CONTACT THE BUYER**

Jessica S Chambers  
 (304) 558-0248  
 jessica.s.chambers@wv.gov

Signature X

FEIN # 55-0676608

DATE 9.1.16

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



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

State of West Virginia  
 Centralized Expression of Interest  
 02 -- Architect/Engr

Proc Folder: 236636

Doc Description: Window Replacement for Armories EOI Design Services


Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2016-07-25	2016-09-01 13:30:00	CEOI 0603 ADJ1700000003	1

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

**VENDOR**  
 Vendor Name, Address and Telephone Number:

**FOR INFORMATION CONTACT THE BUYER**  
 Jessica S Chambers  
 (304) 558-0246  
 jessica.s.chambers@wv.gov

Signature X  FEIN # 55-067161008 DATE 9.1.16

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

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**MANDATE:** 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 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, Inc.

Authorized Signature: [Signature] Date: 9.1.16

State of West Virginia

County of Kanawha, to-wit:

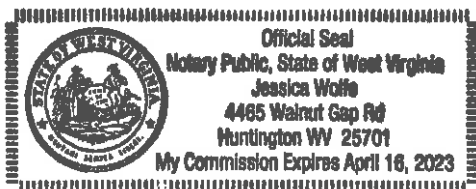
Taken, subscribed, and sworn to before me this 1 day of September, 2016

My Commission expires April 16, 2023

**AFFIX SEAL HERE**

**NOTARY PUBLIC**

[Signature]  
Purchasing Affidavit (Revised 08/01/2015)



**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.:** \_\_\_\_\_

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

ZMM, Inc.  
Company

*[Signature]*  
Authorized Signature

9.1.16  
Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012



September 1, 2016

Ms. Jessica S. Chambers, Senior Buyer  
Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

**Subject: EOI for Architectural and Engineering Services to Replace the Windows of Three (3) WV State Armories (Clarksburg, Martinsburg, Salem) – ADJ170000003**

Dear Ms. Chambers:

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 replacement of windows at three (3) State Armories located at Clarksburg, Martinsburg, and Salem. Established in 1959, ZMM is a West Virginia based, full service A/E firm, and is noted for design excellence and client focus. Over the last fifty years ZMM has worked on window replacement and West Virginia Army National Guard (WVARNG) projects throughout the state. Our experience working with the WVARNG on Readiness Center and Armed Forces Reserve Center projects, which included the design of window systems that meet AT/FP standards, as well as our extensive window replacement portfolio, will help ensure the quality of the services we will provide.

While a window replacement may seem like a simple project, there are a variety of issues that need to be addressed. Some items to consider include the likelihood that the existing window caulk contains hazardous materials (asbestos), the manner that the windows are attached to the building (to meet AT/FP blast requirements), the appropriate type of glazing, the need for egress type windows, as well as the opportunity to recycle the existing window frames and glass. ZMM addressed all of these issues in one of our more recent window replacement projects, State Office Buildings 5 & 6, which included the replacement of over 1,200 windows. Our experience working on window replacement projects of this scale makes our team uniquely qualified to assist with your project.

Thank you for taking the time to review the attached expression of interest that includes information about our proposed approach and methodology for the project (Section 1), as well as ZMM's qualifications and relevant project experience. Additionally, please visit our website at [www.zmm.com](http://www.zmm.com) to see the full range of renovation projects that we have designed. We appreciate your consideration for this important assignment.

Respectfully submitted,

**ZMM, Inc.**

A handwritten signature in black ink, appearing to read "AG RK", is written over a horizontal line.

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

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# Project Approach and Methodology

## Window Replacement at Three (3) WV State Armories

Based upon our understanding of the project, the window replacements will occur at the existing armories in Clarksburg, Martinsburg, and Salem. Additionally, as mentioned in the cover letter, there a variety of issues that need to be addressed when commencing a window replacement projects. Some of the items to consider include the likelihood that the existing window caulk contains hazardous materials (asbestos), the manner that the 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 window frames and glass. Below, please note our approach to considering each of the issues identified above in our approach to the project.

### Investigation

Review Existing Drawings

Review Conditions of the:

- Windows
- Adjacent Façade Material
- Window Head, Jamb, and Sill
- Underlying Structure
- Lintels
- Adjacent Interior Finish



ZMM will begin the investigation process by gathering any drawings, specifications, or other documents of the existing building, especially as it pertains to the windows. After reviewing collected drawings, ZMM will visit the site to do a thorough investigation of any portions of the building that are in the proximity of the windows. Conditions of the exterior façade, existing window head, jamb and sill joints, underlying structure (as well as the connection to the underlying structure), and interior finishes will all be reviewed and documented. ZMM may determine that testing will be required to find if any hazardous materials are present in near the windows.

### Analysis

Hazardous Material Assessment

(Caulk, Paint, Drywall/Plaster)

AT/FP Blast Requirements/Setbacks

Glazing Selection

Fire Marshal (Windows for Egress)

Opportunity for Recycling



ZMM 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 with each window replacement. ZMM will utilize the combined experience of multiple disciplines (architects and structural engineers) to provide the best method for renovating the 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 window manufacturers and installers to recommend the best widow and glazing system for the project. ZMM will also evaluate the current egress conditions, and determine the need for windows for egress.

### Preliminary Design and Construction Documents

Document Floor Plans and Elevations

Head, Jamb, Sill Details – Standardize as Much as Possible to Reduce the Effort

Structural Connections

Interior Finish Repairs

ZMM will utilize the existing drawings, and also take field measurements and photographs to create accurate existing window drawings. These drawings will include floor plans, elevations and section details of existing conditions. ZMM will then use the window manufacturer's details to create drawings showing how to install the new windows in the existing openings. These drawings will then be reviewed with owner, window installer, and ZMM staff to receive any critique of the replacement method and design. A major focus of this process will be the consideration and development of details to attach the new window systems to the existing structure.



ZMM will prepare drawings showing enlarged window details with dimensions and instructions necessary for replacement of windows. The drawings will include all elevations and enlarged floor plans with instructions explaining the complete scope of work. ZMM will also prepare detailed drawings showing demolition work required to prepare for the new windows, and will note any requirements for recycling the existing window components in the specification, which will be prepared to give full descriptions of the contractor's responsibility to provide and install the required products.

#### **Bidding and Construction Phase**

Investigate 'Equal' Window Systems  
Attend Pre-Bid Meetings, Assistance with Addenda  
Utilize Architect for Construction Phase Services  
Support of Entire AE Team Critical

Construction phase services are critical on a window replacement project. Although the project will be well documented and detailed, the quality of the contractor's services must be closely monitored to ensure the integrity of the final product. ZMM will utilize the expertise of our team that recently completed the window replacement project on State Office Buildings 5&6 (Adam Krason, AIA and Hank Walker, AIA) to verify the quality of the installation at each facility. Establishing a high standard with the contractor early in the installation process will be crucial to delivering the results expected by the WVARNG.







## History of ZMM

LOCATION:  
222 Lee Street, West  
Charleston, WV

CONTACT:  
Phone 304.342.0159  
Fax 304.345.8144  
www.zmm.com



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 from our office in Charleston. Our integrated design approach makes ZMM unique among architectural firms in West Virginia, and helps to ensure the quality of our design solutions by providing more thoroughly coordinated construction documents.

Over the last decade, ZMM has become a leader in sustainable or 'green' design in West Virginia. In addition to participating in sustainable design and construction seminars throughout the State (Beckley, Fayette County, Morgantown, Charleston, and Parkersburg), ZMM designed one of the first sustainable educational facilities in West Virginia (Lincoln County High School). ZMM's unique design approach has proven invaluable on projects that employ sustainable design principles, which often require a more integrated approach to building design.

As ZMM enters our second half-century providing professional design services in West Virginia, we remain committed to the ideal of providing high quality, client focused, design solutions that meet budget and schedule requirements. This commitment to quality has been recognized through both State and National design awards, as well as through the long-term client relationships that we have developed.

ZMM has been dedicated to the integrated approach to building design which is unique to architectural firms of our size. Our past successful experience demonstrates that providing multi-disciplined services within one organization results in a fully coordinated project. ZMM has the qualified professionals available to provide services throughout the duration of a project from the initial planning phases through post-occupancy evaluations and beyond.

**Advantages of an integrated Design Approach:**

- The Owner has a Single Point of Design Responsibility
- Improved Design Schedule
- Improved Coordination of Documents
- Improved Construction Phase Services
- Well Coordinated Documents Lead to Better Bids for the Owner

Additionally, ZMM is constantly working to improve the services we offer by addressing emerging and evolving trends that impact the design and construction market. ZMM has seven LEED accredited Professionals on staff to address the needs of our clients who are interested in designing buildings that meet the US Green Building Council's standards. This continues ZMM's active implementation of sustainable design principles on our projects.

**Services**

**Pre-Design**

Educational Facility Planning  
Programming  
Space Planning  
Feasibility Studies  
Existing Building Evaluation  
Site Evaluation and Analysis  
Master Planning  
Construction Cost Estimating

**Design**

Architectural Design  
Sustainable Design  
Interior Design  
Landscape Architecture  
Structural Engineering  
Mechanical Engineering  
Electrical Engineering  
Civil Engineering  
Lighting Design  
Energy Consumption Analysis

**Post Design**

Construction Administration  
Value Engineering  
Life Cycle Cost Analysis  
Post-Occupancy Evaluation



## Award Winning Design



### 2016

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

**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



**AIA West Virginia Chapter: Honor Award**  
*Excellence in Architecture*

Joint Interagency Training & Education Center  
Kingwood, West Virginia



**AIA West Virginia Chapter: Merit Award**  
*Excellence in Architecture in Interiors*

WV State Office Building #5, 10th Floor Renovation  
Charleston, West Virginia

**2010**

**AIA West Virginia Chapter: Honor Award**  
*Excellence in Architecture*

Hacker Valley PK-8 School  
Hacker Valley, West Virginia



**2009**

**AIA West Virginia Chapter: Merit Award**  
*Excellence in Architecture*

Construction & Facilities Management Office (CFMO)  
Charleston, West Virginia



**2008**

**AIA West Virginia Chapter: Honor Award**  
*Excellence in Architecture*

Erma Byrd Center  
Beaver, West Virginia

# Adam R. Krason, AIA, LEED AP, ALEP



## Role

Principal

## Professional Registrations

Registered Architect (WV, OH, KY, VA)  
LEED Accredited Professional  
Accredited Learning Environment Professional  
NCARB (55,984)  
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

### Charleston Civic Center, Charleston, WV

Mr. Krason is serving 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

## 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

- American Institute of Architects, Member
- 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

collaboration with tvsdesign and BBL Carlton. Mr. Krason is 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 is scheduled for completion in 2018.

**Bridgemont Community and Technical College - Davis Hall Renovation and Master Plan, Montgomery, WV** Mr. Krason led an architectural and engineering investigation into the condition of Davis Hall to help Bridgemont Community and Technical College to develop a scope for the current renovation project, as well as a plan to undertake deferred maintenance at the facility. The project scope included remedying several life safety deficiencies, as well as improvements to the building envelope.

**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 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. The project received LEED Gold Certification.

**State Office Building #5, 10<sup>th</sup> Floor Renovation (Office of Technology), Charleston, WV** Mr. Krason led an architectural and engineering team that completed a detailed assessment of State Office Buildings 5, 6, & 7. Once the assessment was complete, ZMM had the opportunity to implement the proposed improvements on the 10<sup>th</sup> Floor of State Office Building #5 for the Office of Technology. The renovations, aiming for LEED-CI Certification, re-oriented the layout by drawing all private offices into the building core, providing access to daylight and views for all employees. The design also utilized acoustical ceiling clouds and bulkheads to maximize the acoustical performance, while also increasing the volume of the space.

**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 1-201<sup>st</sup> Field Artillery. A significant portion of the Morgantown Readiness Center supports the 249<sup>th</sup> Army Band. The Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas.

**Construction and Facilities Management Office Expansion (WVARNG), Charleston, WV** Mr. Krason was responsible for the programming, architectural design, and project management of the office expansion. The project included the renovation and addition to an existing pre-engineered metal building. The design, which was honored with a 2009 AIA Merit Award, focused the client's resources on a new entry and corridor that separated the existing office space from the addition.

**Wood County Justice Center, Parkersburg, WV** Mr. Krason was the Project Manager for this adaptive reuse project. The existing 32,000 SF building creates a new Magistrate Court and Sheriff's Department. The justice center is LEED Silver Certified.

**Tucker County Courthouse Annex, Parsons, WV** Mr. Krason was the Project Architect for the courthouse annex addition in Parsons, WV. 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.

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

2016 WV AIA Merit Award *Christ Church United Methodist, Charleston, WV*

2015 WV AIA Honor Award *Edgewood Elementary School, Charleston, WV*

2014 WV AIA Merit Award *Girl Scouts of Black Diamond Council, Charleston, WV*

2011 WV AIA Honor Award *Joint Interagency Training and Education Center (JITEC), Kingwood, WV*

2011 AIA Honor Award *State Office Building #5, 10<sup>th</sup> Floor Renovation, Charleston, WV*

2009 AIA Merit Award *WVARNG Construction and Facilities Management Office, Charleston, WV*

## 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

#### State Office Buildings #5, 10<sup>th</sup> 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 10<sup>th</sup> floor of Building #5 was the first major interior renovation project that responded to the recommendations.

### Education

Master of Science Architectural Engineering, Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering, West Virginia University, 1973

### Employment History

2010 - Present, President, ZMM

1976 - 2010, 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 – 2<sup>nd</sup> Ward Councilman for 20 years

**West Virginia Capitol Complex - Buildings #5, 6, & 7, Charleston, WV** Mr. Doeffinger was the Project Engineer for the in-depth analysis of Buildings #5,6,& 7 at the State Capitol Campus. The study included the preparation of as-built plans, as well as an analysis of all building systems, including: Life Safety; Vertical Transportation; Mechanical; Electrical; Data; Façade; Structure; and Roofing. The analysis also included a study related to potential hazardous materials in the facility.

**Bridgemont (BridgeValley) Community and Technical College Davis Hall Renovation, Montgomery, WV** Mr. Doeffinger led an architectural and engineering investigation into the condition of Davis Hall to help Bridgemont Community and Technical College to develop a scope for the current renovation project, as well as a plan to undertake deferred maintenance at the facility. The project scope included remedying several life safety deficiencies, as well as improvements to the building envelope.

**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 aiming for LEED Silver Certification. The project is served by a 4 - pipe hot and chilled water system with an energy recovery ventilation system.

**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.

**West Virginia Regional Technology Park (WVRTP) - Building 740, South Charleston WV** Mr. Doeffinger is the engineering principal-in-charge of the new Steam Plant for Building 740. This project involves designing and constructing the Interim Steam Heating System throughout Building 740.

**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.

**West Virginia Regional Jails, Mr. Doeffinger was the Project Engineer on ten West Virginia Regional Jails.** In 2009 he was responsible for the HVAC renovation on four regional jails, including the replacement of rooftop HVAC units and Building Automation Systems.

**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.

**The Boulevard at 2412, Charleston, WV** Mr. Doeffinger was on the design team for the proposed Kanawha Boulevard Condominium project. The sixty unit project, located in the East End Historic District, included a design that increased in height as it stepped back from the Kanawha River, providing the opportunity for a series of outdoor living areas, while also respecting the massing of the adjacent residences in the Historic District.



## Hank Walker, AIA, LEED AP



### Role

Project Architect

### Professional Registrations

Registered Architect (WV)  
LEED Accredited Professional

Mr. Walker is responsible for overseeing the planning, design, and construction of a variety of types of building projects to meet the needs of the clients. Mr. Walker works with other in-house engineers and design professionals throughout the building process to provide a thoroughly integrated product. Mr. Walker also coordinates with various consultants, code officials, and government agencies to provide a quality building.

Mr. Walker has broad experience in scopes of both new and renovation projects throughout his years at ZMM.

### Project Experience

#### **WV State Capitol Complex, Charleston, WV**

Mr. Walker has worked on several renovation projects on the State Capitol Complex including: roof replacements, culture center gift shop, window replacements to buildings 5, 6, & 7, door and security project, and renovations to building #5, 10<sup>th</sup> floor - Office of Technology.

**Tackett Family Readiness Center (WVARNG), Charleston, WV** Mr. Walker was responsible for the design of a two story building set on a sloped hillside. The new facility will provide a variety of offices and public spaces including a chapel, multi-purpose area, a lobby, and a lounge.

**Alderson Federal Prison Camp - New Housing Units** Mr. Walker was responsible for the design of two new 500 bed housing units. These units were constructed on the historical site of the first federal prison for women. The prison was in operation during the new construction of both housing units.

#### **Vicki V. Douglas Juvenile Center, Martinsburg, WV**

Mr. Walker was the project architect responsible for the addition and renovation design of the 23 bed capacity juvenile center. Providing a secure facility with additional capacity meets the growing needs of the area. The original facility was quadrupled in size while leaving the original façade intact on two sides with the new addition wrapping around the remaining two sides.

### Education

Bachelor of Science Architecture; 1973  
The University of Cincinnati

### Employment History

1979 - Present, Project Architect, ZMM  
1977 - 1979, Designer, ZMM  
1977, Designer, Holderby Engineering  
1973 - 1976, City Planning, American Peace Corps, Iran

### Civic Affiliations

- American Institute of Architects, Member
- West Virginia Society of Architects, Member
- Charleston Salvation Army advisory board 1990 - Present
- Advisory Board Chairman 1997 - 1998

**West Virginia Regional Jail Authority**

Mr. Walker has worked on numerous renovation projects of all 10 regional jails facilities across the state. All of these projects have been completed with the facilities remaining in continuous operation.

**Braxton County Memorial Hospital, Gassaway, WV** Mr. Walker has worked on a variety of additions and renovations projects at the hospital. The renovations and additions were completed on the emergency room floor, medical surgical, radiology, laboratory, and outpatient areas while the hospitals departments were kept in operation.

**Ravenswood High School, Ravenswood, WV**

Mr. Walker was the project architect on this recent major renovation project. The facility received new bleachers to their Flinn Field football stadium. The bleachers increased capacity to more than 3,000 people, making the stadium eligible to host state playoff games.

**Barboursville Middle School, Barboursville, WV**

Mr. Walker was part of the design team that was responsible for designing a replacement building for the existing middle school. The design required that the new school building be built where the existing building was occupied on the same size. An existing large gymnasium was renovated and incorporated into the next education complex. Mr. Walker was the architect on the new bleacher design and the press box renovations to the middle school.

**Logan High School, Logan, WV**

Mr. Walker was the project architect on the new bleacher and press box project. The football fields bleachers were upgraded with handrails and handicapped accessibility.

**The Retreat at Glade Springs Resort, Daniels, WV** Mr. Walker was responsible for the design of a variety of townhouses assembled into a multi-unit building that fit into the hilly terrain of the site.

**Blackwater Falls and Cacapon WV State Parks, Davis, WV** Mr. Walker was responsible for the design of additions to the existing historical lodge building for the two state parks. Mr. Walker incorporated new meeting rooms, elevator, pool and health spas into the existing lodge building and incorporated various renovations to existing buildings to make the buildings more usable for large groups.

**Awards and Acknowledgements:**

Design Award Received from the Corps of Engineers for: The Stonewall Jackson State Park Facilities.

Mr. Walker received recognition in the *Charleston Gazette* Newspaper for his own home residence, which incorporated "passive solar" and other "Green" Design principals.

## **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**

#### **Jackson County Armed Forces Reserve Center, Ripley, 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.

#### **Joint Interagency Education and Training Center**

**(WVARNG), Kingwood, WV** Nate 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 (WVARNG), 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.

### **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

**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.

**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 will include: 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.

**Edgewood Elementary School, Charleston, WV** Mr. Spencer is currently participating on a design team that is developing the new Kanawha County Elementary School on Charleston's West Side. The school is being designed as a 21<sup>st</sup> 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. A dental and health clinic is also on site for all enrolled students in the Kanawha County School District.

**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 workbays, 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.

**Additional Projects:**

Charleston Civic Center, Charleston, WV

Wayne High School, Wayne, WV

Crum PK-8 School, Crum, WV

Logan-Mingo Readiness Center, Logan, WV

Goodwill Industries, Charleston, WV

## Scot Casdorff, PE



### **Role**

Electrical Engineer

### **Professional Registrations**

Professional Engineer (WV, OH *pending*)

Mr. Casdorff serves as an Electrical Engineer with ZMM providing electrical design services for a vast number of projects consisting of commercial, educational, correctional, institutional, and military facilities.

Mr. Casdorff 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. Mr. Casdorff has participated on several LEED registered projects using energy conserving methods and utilizing lighting control systems and other means to meet or exceed ASHRAE 90.1, LEED, and energy code requirements.

### **Project Experience**

**Jackson County Armed Forces Reserve Center, (WVARNG), Millwood, WV** Mr. Casdorff was responsible for the electrical design of the 76,000 SF single story military reserve center which serves both the West Virginia Army National Guard and the United States Army Reserves (USAR) units. The multi-use facility provides educational spaces for classrooms, distance learning, physical training and a weapons simulation center. The project is targeted for LEED Silver Certification.

**Glen Jean Armed Forces Reserve Center, (WVARNG), Glen Jean, WV** Mr. Casdorff was responsible for the electrical design of the 102,000 SF military training facility which houses the Armed Forces Reserve Center (AFRC), Military Entrance Processing Station (MEPS), and an Organizational Maintenance Shop (OMS). The AFRC contains the administrative and training space for the 77<sup>th</sup> Brigade Troop Command, the 1863<sup>rd</sup> Transportation Company, and the 150<sup>th</sup> Armored Regiment Company. The MEPS houses their administrative, medical, headquarters, testing and storage functions at the facility. A comprehensive 8,500 SF OMS vehicle maintenance shop provides space for six large service workbays for maintaining the military fleet.

### **Education**

Bachelor of Science, West Virginia Institute of Technology, 1995

### **Employment History**

2000 - Present, Electrical Engineer, ZMM

1995 - 2000 Electrical Controls Systems Manager, WV Engineering Firm

**Joint Interagency Education and Training Center (WVARNG), Kingwood, WV** Mr. Casdorff was responsible for the electrical design of the 180,000 SF 3-story billeting/hotel expansion for the Army National Guard campus style facility for training and operational mission support. The expansion more than triples the facility size and increases the total capacity from 189 guest rooms to 600 guest rooms and suites. The project won LEED Gold Certification.

**J.M. Chick Buckbee Juvenile Center, Romney, WV** Mr. Casdorff was responsible for the electrical design of the maximum security juvenile detention center. The single story 26,000 SF facility houses intake, medical care, recreation, food service and offers educational programs to help rehabilitate young individuals.

**Gene Spadaro Juvenile Center, Mt. Hope, WV** Mr. Casdorff was responsible for the electrical design of the minimum security juvenile detention center which offers a softer approach to rehabilitation relying more on the affection from the caregivers than the restraints of lockdown helping young individuals make better life decisions.

**Lakin Correctional Facility for Women, Lakin, WV** Mr. Casdorff was responsible for the electrical design of a dormitory style expansion on site of an existing correctional facility built exclusively for women. The new 124 bed, 24,000SF dormitory style housing unit provides ample amenities and a culinary arts program for the inmate population. An additional 9,500 SF Correctional Industries building was located near the dormitory and offers a garment, sewing and embroidery factory and manufactures inmate clothing, linens and office chairs.

**Southern WV Community & Technical College, Williamson WV** Mr. Casdorff was responsible for the electrical power and lighting distribution design of this 22,000 SF higher education facility. This project is being designed to meet the USGBC LEED Silver.

**West Virginia Research, Education, and Technology – Building 704, South Charleston, WV** Mr. Casdorff is the electrical engineer for building 704 and responsible for electrical power and lighting distribution. 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.

**West Virginia Housing Development Fund Office, Charleston, WV** Mr. Casdorff was responsible for the electrical design of the 37,000 SF office building which provides natural daylighting into its interior spaces coupled with an automatic dimming system and motorized shade controls. This 2-story administrative facility houses approximately 95 to 100 employees with a flexible open office floor plan utilizing modular under-floor wiring to accommodate any future modifications of the workspace with minimal disruption to the employees. The project is targeted for LEED Silver Certification.

**Southside Elementary and Huntington Middle School, Huntington, WV** Mr. Casdorff was the electrical engineer on this 156,000 SF facility. This project encompasses all phases of construction; demolition, major renovation and new construction. The original historic 26,000 SF three story school building was preserved and the remaining less than adequate facility was strategically removed to accommodate the new addition. The existing facility was completely renovated and brought up to new construction standards to blend with the new addition. The project consisted of two distinct school facilities existing on the same piece of property. The new construction blends seamlessly with the older historic structure.

**Gauley River Elementary School, Craigsville, WV**

Mr. Casdorff was responsible for the electrical design of the new elementary school. The project is consolidating Beaver Elementary School and Craigsville Elementary School into a new 375-student school. The school houses 3 Pre-Kindergartens, 3 Kindergartens, 2 first grade, 12 1<sup>st</sup>-5<sup>th</sup> grade classrooms, activity room, cafeteria, kitchen, media center, and administration spaces.

## Michael Sipe, PE



### **Role**

Structural Engineer

### **Professional Registrations**

Professional Engineer (WV)

Mr. Sipe is responsible for the design of the structural systems, ensuring that they not only meet the building code requirements, but meet the long-term needs of the owner. He performs the analysis and design of the structural components to resist the loads from lateral and gravity forces. He coordinates with the other disciplines in order to integrate the Structural system into the building, working with the architects to determine the most economical way to construct the components of the building.

Mr. Sipe began his career in structural engineering by designing commercial, educational, residential, and medical structures in Morgantown WV. He has a broad range of experience in masonry, concrete, steel and timber design. In 2012, Mr. Sipe moved back to Charleston, WV, to take a structural engineering position with ZMM.

### **Project Experience**

- Ceredo-Kenova Elementary School, Kenova, WV
- Dunbar Surplus Property, Dunbar, WV
- Kanawha Valley Bank Cooling Tower, Charleston, WV
- Mason Cty Moose Lodge Renovation, Point Pleasant, WV
- CAMC ICU Addition, Hurricane, WV
- Cabell County Bus Garage Facility, Huntington, WV
- Houston Company Store Restoration, Kimball, WV
- Sherman Junior/Senior High Renovations, Seth, WV
- WV Lottery Building Structural Evaluation, Charleston, WV
- Jeld-Wen Pipe Rack Structures, Craigsville, WV
- Culloden Elementary Addition, Culloden, WV
- Southern West Virginia Community & Technical College, Structural Evaluations, Southern Region, WV

### **Education**

Bachelor of Mechanical Engineering  
with Minor in Mathematics,  
West Virginia Institute of Technology,  
2005

### **Employment History**

2012 - Present, Structural Engineer,  
ZMM

2006 - 2012, Structural Engineer,  
Allegheny Design Services

### **Civic Affiliations**

- American Institute of Steel  
Construction, Member

# Logan-Mingo Readiness Center

WVARNG



**LOCATION:**  
Holden, WV

**SIZE:**  
54,000 SF

**COMPLETION:**  
2015

**COST:**  
\$12M

**CONTACT:**  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6446



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 150<sup>th</sup> Armored Reconnaissance Squadron and the 156<sup>th</sup> 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.

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 pre-cast walls are used to anchor the facility at the Distance Learning Center, while a cast-in-place retaining wall serves as a part of the Anti-Terrorism/Force Protection design.





# Jackson County Armed Forces Reserve Center

WVARNG



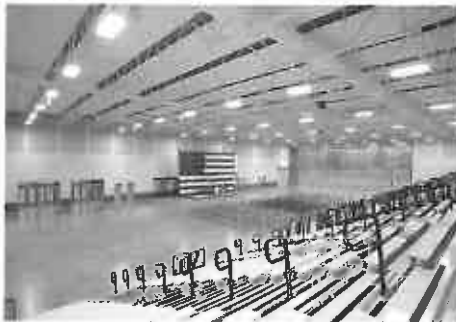
**LOCATION:**  
Millwood, WV

**SIZE:**  
75,000 SF

**COST:**  
\$20M

**COMPLETION:**  
Fall 2011

**CONTACT:**  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6446



The new facility houses both the West Virginia Army National Guard (WVARNG) and the United States Army Reserves (USAR). The primary user for the WVARNG will be DET 1 821st Engineering Company, who will be supported by a FSC of the 1092nd. USAR occupants will include PLT AMMO 261 OD and PLT 1 (Postal) and PLT 6 (Postal) of the 44th Personnel Company. 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.

The relationship between the structures became crucial to the site layout. The new facility is centered on the existing house, increasing the exposure of the facility from Route 2 - the major route of vehicular travel that parallels the Ohio River. Once the aesthetic of the building was established, the massing of the new facility was defined by breaking-down the facility into smaller mass elements that more closely reflected the Georgian Style, and that of many Army posts, such as Fort Meyer in Northern Virginia. 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 USAR and WVARNG Recruiting, Family Support, and Administrative areas located on separate sides (USAR to the left, WVARNG to the right). 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. 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.



# Morgantown Readiness Center

WVARNG



**LOCATION:**  
Morgantown, WV

**SIZE:**  
54,000 SF

**COMPLETION:**  
2013

**COST:**  
\$18.5M

**CONTACT:**  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6446



The Morgantown Readiness Center is a unique military facility for several reasons. While the Readiness Center supports traditional military functions including the 1-201<sup>st</sup> Field Artillery, a significant portion of the Morgantown Readiness Center supports the 249<sup>th</sup> Army Band. To support the band, the Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas.

To efficiently create the stage and performance area the design team utilized a variety of dual function spaces. The stage is actually a large rehearsal space with an adjacent elevated recording area. Two large operable partitions are used – one to separate the rehearsal area from the remainder of the stage and the auditorium – while the other separates the auditorium from the Drill Hall. This configuration allowed the design team to maximize the West Virginia Army National Guard's investment by utilizing federally authorized space to also function as a large performance area. Acoustically, this challenge was met by creating a Drill Hall with an irregular shape that was contained within a rectilinear sloped barrel arch form. The geometry was complimented by acoustically engineered interior surfaces and finishes to create a vibrant and rich auditorium.

The facility is also 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. Additionally, the Readiness Center is located approximately twenty (20) miles from Camp Dawson, a large State and Federal training campus. As troops will often be travelling to Camp Dawson through the Morgantown Readiness Center, the facility needed to function as a 'gateway.'

# Morgantown Readiness Center

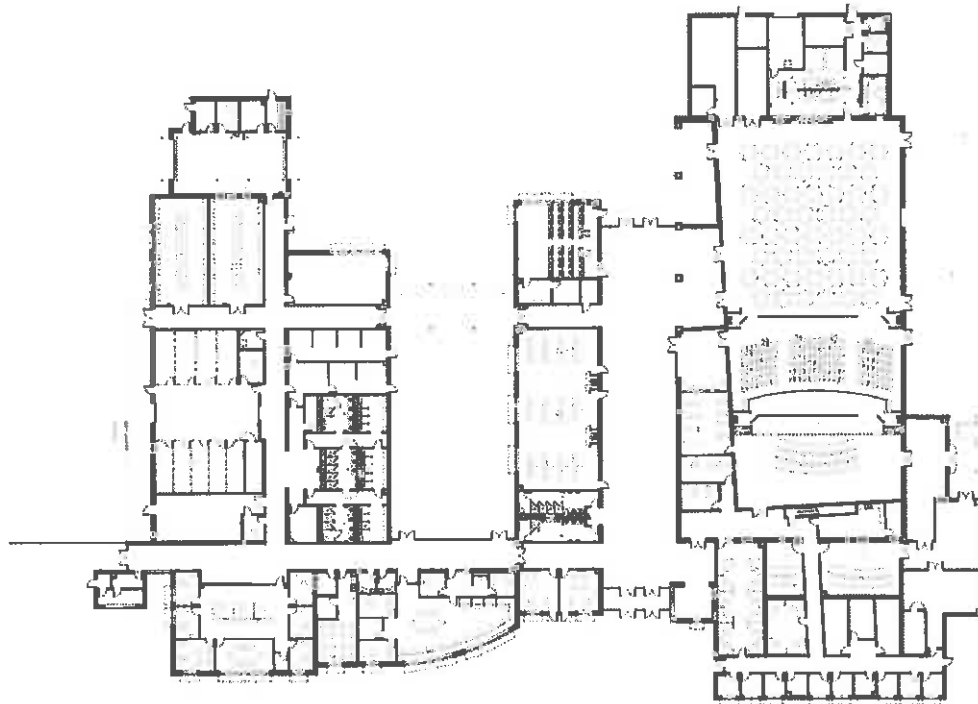
WVARNG



The creation of a 'gateway' facility was accomplished through exterior material choices (compatible with Camp Dawson), as well as the decision to utilize a tower-like feature to mark entry – a very prominent feature of the Regional Training Institute (RTI) at Camp Dawson. Where the RTI utilized a large cylindrical mass, the tower at the Morgantown Readiness Center respects the context of the former runway by reflecting the aesthetic of an airport control tower.

The Morgantown Readiness Center is also a sustainable building, and is in the process of pursuing LEED Certification from the USGBC. 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. Additional sustainable features include a reflective roof, the use of regional materials, and efficient lighting and HVAC systems.

While many features are addressed in the design of the Morgantown Readiness Center, the final result is a harmonious composition that reflects both its function and the environment, while deferring to its location on an abandoned runway.



# Joint Interagency Training & Education Center

WVARNG



**LOCATION:**  
Kingwood, WV

**SIZE:**  
285,000 SF

**COMPLETION:**  
2013

**COST:**  
\$78.4M

**OWNER:**  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6446

**AWARD:**  
2011 AIA Honor Award  
West Virginia Chapter  
*Excellence in Architecture*



ZMM Architects and Engineers, in association with AECOM, is providing architectural and engineering design services for the Joint Interagency Training and Education Center (JITEC), an Army National Guard campus-style facility for training and operational mission support. Sited on 30 acres at the northern end of Camp Dawson between the Cheat River and the foot of Brier Mountain, this 283,000-SF project includes the design of a new operations building; expansion of the billeting facility; renovation of the training facility; creation of a new base entry checkpoint and visitor center; and design for walkway connectors between all the facilities.

The project began with a review of the existing base master plan, followed by a revision of the master plan concept. JITEC is a training and educational facility – the vision behind the site design and updated master plan is that of a college campus atmosphere. The clients goal was to create a campus environment that integrates existing buildings with new ones, which was accomplished by using compatible, yet distinct building materials.

The new facilities are designed to meet all anti-terrorism/force protection criteria and are slated for LEED-NC Gold Certification from the U.S. Green Building Council. The new 82,000-SF operations building is prominently sited as the main focal point upon entering Camp Dawson through the secure access control point and visitor's center, also designed by AECOM. The building's exterior complements its West Virginia setting. The entire building front, composed of glass and pre-cast concrete walls, is open and inviting with glazing that reflects the surrounding trees and hills.



# Joint Interagency Training & Education Center



Security requirements for the command center influenced the design of the attached, copper-clad "black box" that is an homage to the native rock stratification seen throughout the state.

The building consists of four distinct areas: the Joint Operations Center; a suite of secure training rooms; base headquarters and JITEC administrative offices; and a 6,000 SF server and telecommunications room.

Entry to the Joint Operations Center (JOC) is provided by a secure mantrap adjacent to a dedicated security office. 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. Within the JOC is a secure area consisting of workstations, offices, and two divisible conference rooms with secure video conferencing capabilities. The secure area construction dictates a windowless environment, requiring proper lighting and creative use of materials to create an agreeable work atmosphere.

The 180,000-SF billeting (hotel) expansion more than triples the facility size and increases the total capacity from 189 guest rooms to 600 guest rooms and suites. Designed to relate to the existing architecture with similar scale, materials, textures, and massing, the addition also brings in new elements, such as iconic glazed building corner elements, to integrate the design of the new operations building. A new dedicated lobby with terrazzo tile flooring leads to a monumental stair with terrazzo treads, open risers, and a glass/stainless steel railing for access to the open lounge areas on the second and third floors.

The lobby's design provides a hotel atmosphere, underscored by the new Liberty Lounge, an upscale bar and restaurant area, with wood finishes salvaged from the gymnasium floor in the existing headquarters building. The new six "executive suites", are designed to the full amenities of corporate hotels.

# Construction & Facilities Management Office

WVARNG



LOCATION:  
Charleston, WV

SIZE:  
19,935 SF

COST:  
\$3.5M

COMPLETION:  
2008

CONTACT:  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6539

AWARD:  
2009 AIA Merit Award,  
West Virginia Chapter,  
*Achievement in Architecture*



The Construction and Facilities Management Office (CFMO) Expansion project will bring all of the operations of the CFMO together under one roof. The branches that will occupy this facility include: Director of Engineering, Environmental, Planning and Programming, Facility Operations & Maintenance, Business Management, Resource Management, and Design and Construction. This new facility 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.



This transitional space was designed to connect the two structures, 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 large expanses of glazing located to capture indirect light and views of Coonskin Park.



# Robert C. Byrd - Regional Training Institute

WVARNG



**LOCATION:**  
Kingwood, WV

**SIZE:**  
148,000 SF

**COMPLETION:**  
2002

**COST:**  
\$21M

**CONTACT:**  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6446



The Robert C. Byrd Regional Training Institute at Camp Dawson is a 148,000 SF facility designed to provide training, dormitory, dining, and recreational facilities for the West Virginia Army National Guard. The facility, which includes 183 private dormitory rooms in addition to a wide range of training spaces is designed to accommodate a variety of both military and civilian training functions.

The goal of the owner was to provide a campus within a building, with clear circulation and for various uses. ZMM accomplished this objective by employing a large cylindrical mass that marks the main entry where guests can coordinate both their housing and educational needs.

Additionally, the housing wing is joined to the recreational and educational components with a large gathering/transitional space that often serves as an informal meeting area. Due to the success of the project, and growing use of the facilities, ZMM is currently assisting the West Virginia Army National Guard with training and dormitory expansions.



# Glen Jean Armed Forces Reserve Center

WVARNG



**LOCATION:**  
Glen Jean, WV

**SIZE:**  
110,000 SF

**COST:**  
\$17M

**COMPLETION:**  
2004

**CONTACT:**  
MAJ Dan Clevenger  
WVARNG  
1707 Coonskin Drive  
Charleston, WV 25311  
304.561.6446



The Glen Jean Armed Forces 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 to provide space for community functions.





# Window Replacement Experience



## Window Replacement Projects

- WV State Office Buildings 5, 6, & 7
- Cedar Lakes Conference Center
- Bridgemont Community & Technical College
- Hamlin Middle School
- Cabell County BOE Office
- Tiskelwah Center
- Culloden Elementary School
- Ona Elementary School
- Geneva-Kent Elementary School
- Altizer Elementary School
- Salt Rock Elementary School
- Meadows Elementary School
- Mason County BOE Office
- General Services Administration
- Dunlow Elementary School
- Peyton Elementary School
- WV Rehabilitation Center
- Richwood High School
- Ranger Elementary School
- Hamlin Pk-8 School



## State Office Buildings 5,6, & 7



**LOCATION:**  
Charleston, WV

**COMPLETION:**  
On-Going

**CONTACT:**  
Greg Melton  
Director of General Services  
Capitol Complex Building  
Building 1, Room MB-60  
1900 Kanawha Blvd., E.  
Charleston, WV 25305  
304.558.2317



More than forty (40) years ago, ZMM (as Zando, Martin, and Milstead) designed the original State Office Buildings 5, 6, & 7. Over the last several years, ZMM has been assisting the State of West Virginia General Services with various improvements to the buildings. These improvements have ranged from substantial renovations to maintenance and repair type projects, and include:

### Roof Replacement

ZMM assisted the General Services Division with a roof replacement for all three buildings. The roof replacement utilized 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 was also removed.

### Electrical Courtyard Improvements

ZMM 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, & 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 & 6, and the second to replace the doors at the entries to Buildings 5, 6, & 7. These projects included building envelope and security considerations. The projects were designed and staged to minimize disturbance to the buildings occupants.

## State Office Buildings 5,6, & 7

### Major Renovations

ZMM 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 & 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 new sprinkler service and fire pump into the building, demolition, construction management, and hazardous material abatement. The project was delivered considerably under the anticipated project budget. ZMM has also assisted on renovations to the 8th Floor of Building 6 for the Department of Education and the 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Floors of Building 6 for the Department of Education and Division of Personnel. Work on the 8<sup>th</sup> Floor of Building 6 is the only additional renovation constructed to date. ZMM has recently been released to provide design services for Floor 7, 8 & 9 of Building 5 and the 7<sup>th</sup> Floor of Building 6.

### 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, & 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, although to date, the construction for this improvement has not commenced.

### Valve Replacement

ZMM assisted with a valve replacement project to isolate mechanical risers in Building 5 & 6. This technically intensive mechanical project will give the General Services Division greater control over the system, and will help isolate various risers in the event of significant system failures in the future.

# Charleston Civic Center Expansion and Renovation



**LOCATION:**  
Charleston, WV

**SIZE:**  
283,000 SF

**COMPLETION:**  
Est. 2017

**COST:**  
\$75M

**CONTACT:**  
Mr. David Molgaard  
City Manager  
City of Charleston  
501 Virginia Street, E.  
Room 101  
Charleston, WV 25301  
304.348.8014



The Charleston Civic Center Expansion and Renovation is a transformational project for both the city of Charleston and West Virginia. Our team is building on the strong authentic character of Charleston to remake the Charleston Civic Center into a more efficient, more sustainable, more dynamic and a more iconic best-in-class destination.

The design of the expansion and renovation of the Charleston Civic Center is 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, trapping. This set the local character. With a foundation rich in resources, manufacturing added value to the raw materials with crafts like glass making and industries like chemicals and energy. This attracted a rich diversity of immigrants and a culture of craftsmanship that set the urban character. The economy is shifting from industry and service to information and technology. Again, the landscape and industry that shaped the region gives Charleston real advantages to exploit. The Creative Class, critical for the information and technology age, can live and work anywhere - what they want is access to the outdoors; real places with real character; and continuous education and entertainment.

Our design starts with an organizational concept inspired by this history. The Kanawha River is the social organizing link throughout the region, with settlement zones developing on whatever flatland the river provided --creating nodes of activities among the hills and valleys.



# Charleston Civic Center Expansion and Renovation



The renovated Civic Center is a building that emerges from this iconic landscape, with the architecture and topography working together. The Civic Center will also have distinct active nodes to celebrate each activity; arena, convention, and banquet, and 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 is to create separate entries and identities for the arena and convention center. This will allow for simultaneous events and clarity of use. For the convention center to thrive, it needs a real ballroom assembly space. Located overlooking the Elk River, the new ballroom pre-function space will be the most dramatic feature of the center. Together, the three glass enclosed nodes --arena lobby, convention lobby, ballroom --define a unique Charleston event campus. As described above, the spaces that connect these nodes are inspired by the hills and cut rock faces that connect the towns along the Kanawha River. With the building emerging from the landscape and expressed as cut rock walls, the connecting areas are designed to be expressive and economical backdrops to the glass boxed nodes.

While the expansion will transform the southeast to the middle of the northern zone of the site, the existing building mass will still dominate a portion of the northern and eastern campus. The dominant expression along these existing facades is the landscaped berms. As we imagined the new building expression emerging from the landscape, a strategy developed to transform these berms to reflect, at the pedestrian level, the overall design theme. Above the level of the berms, the new concourse level windows will open up the facade and provide a much needed break in the massing. The upper part of the arena will be painted in two tones to match the new building, playing off the different faces. The north, south, east and west faces painted a lighter shade; and the northeast, southeast, southwest and northwest faces a darker shade. Dramatic exterior color-changing lighting on the northeast, southeast, southwest and northwest faces will then transform the look and feel of the center into a fun and festive landmark.

# Wood County Justice Center



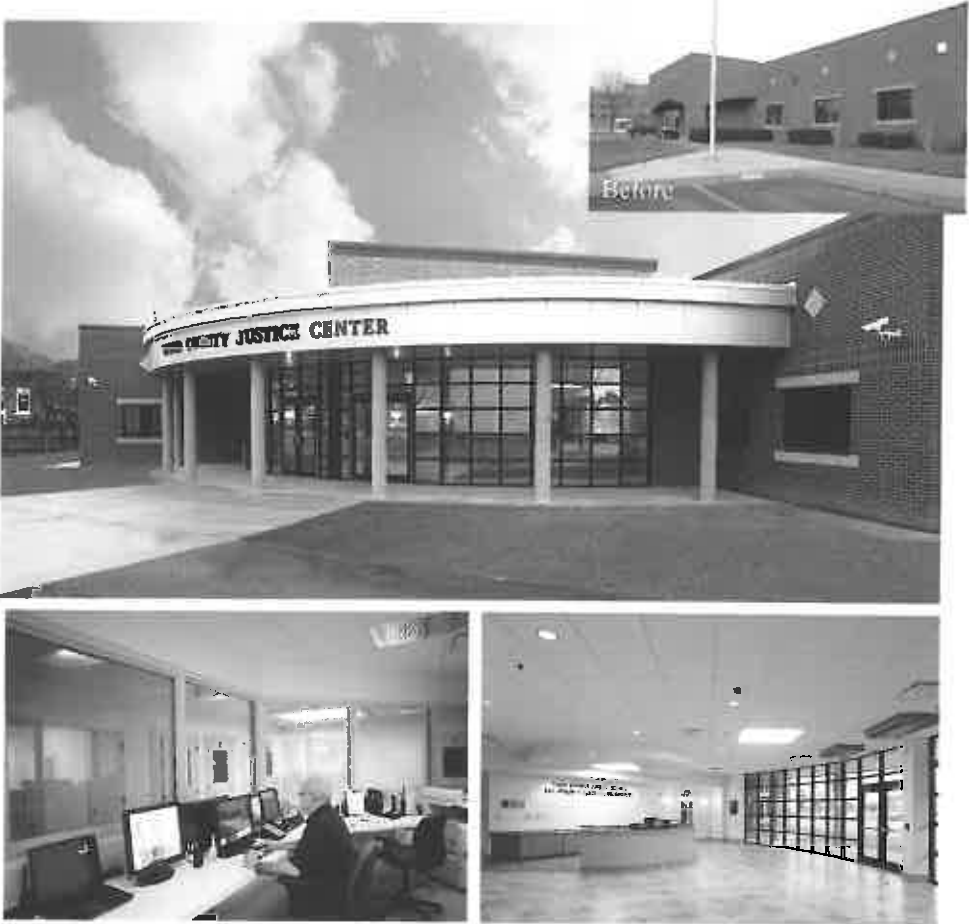
**LOCATION:**  
Parkersburg, WV

**SIZE:**  
32,000 SF

**COMPLETION:**  
2011

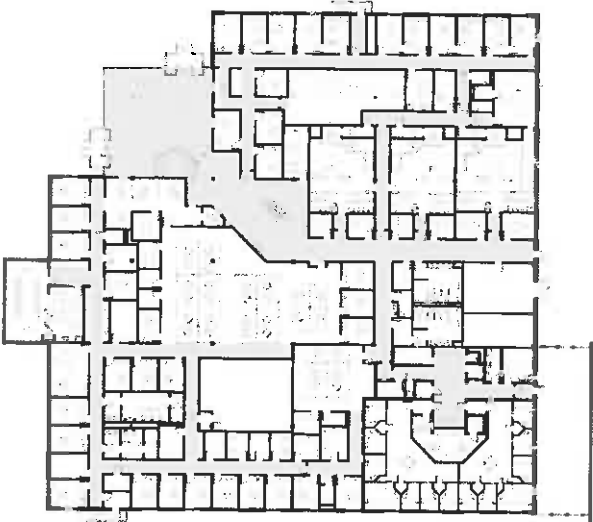
**PROJECT COST:**  
\$5M

**CONTACT:**  
Mr. Blair Couch  
Commissioner  
No. 1 Court Square  
Suite 205  
Parkersburg WV 26101  
304.424.1978



This project was an extensive renovation of a 15 year old, 32,000 square foot, 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 3 government functions that had outgrown the 3 separate buildings that they occupied.

The renovated building consists of offices and 3 Courtrooms for the County's Magistrate Court system, public service windows for document pick-up 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 new, energy efficient lighting was installed. The project was designed around the U.S. Green Building Council's New Construction and Major Renovation Guidelines and is LEED Silver Certified.

# West Virginia State Police

## Information Services Center



**LOCATION:**  
So. Charleston, WV

**SIZE:**  
14,000 SF Renovation  
4,000 SF New Construction

**CONTACT:**  
Major Gary Tincher  
Chief of Staff Services  
West Virginia State Police  
725 Jefferson Road  
So. Charleston, WV 25309  
304.746.2115  
Gary.r.tincher@wvup.gov



The West Virginia State Police is currently renovating a structure that previously served as the State Medical Examiner's Office, and prior to that, an elementary school. The building is located adjacent to the State Police's main campus in South Charleston, WV. The building is currently undergoing extensive renovation, with the intent of transforming it into an Information Services Center. The divisions are currently housed in the main state police headquarters building.

The scope of the work includes a complete renovation to the 14,000 SF, two-story main building with a new 4,000 SF, one-story addition on the back. The old exterior masonry façade will be enveloped with a thin-brick veneer facing Jefferson Road and an exterior insulation and finish system in rear of the facility. New aluminum windows, high-performance glazing and new single-ply roof membrane complete the exterior. The interior will be converted into professional office space on both floors housing their Communications Division, Criminal Records Division and Traffic Records Division. The space was maximized by utilizing the wide corridors as office space, and creating new, appropriately scale corridors in a loop pattern through the existing classrooms



# Tucker County Courthouse Annex Renovation



**LOCATION:**  
Parsons, WV

**SIZE:**  
21,000 SF

**COST:**  
\$4M

**COMPLETION:**  
2013

**CONTACT:**  
Mr. Joel Goughnour  
Tucker Cty Commission  
211 1st Street, Suite 307  
Parsons, WV 26287  
304.478.2866 Ext 207



The Tucker County Courthouse Annex is 4-story, 21,000 square foot 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 existing jailor's residence, which is listed on the National Register, created a challenging planning dilemma. ZMM explored three options for developing the Courthouse Annex. The first option, the original concept proposed by Tucker County, anticipated connecting the Annex at multiple levels via a connector.

The problem with this approach was that the jailor's residence appeared like a building stuck within a larger complex, as well as the cost of the connector structure. ZMM also explored the option of relocating the jailor's residence, an approach that proved not feasible as the location of the facility justifies its historical quality. The final solution that was examined, and is currently being implemented, involved adding a separate elevator to the existing Tucker County Courthouse, and connecting the entry to the two facilities with an enclosed single level connector. This approach is the most efficient use of the County's resources, and also the best approach for the overall Courthouse site. 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.

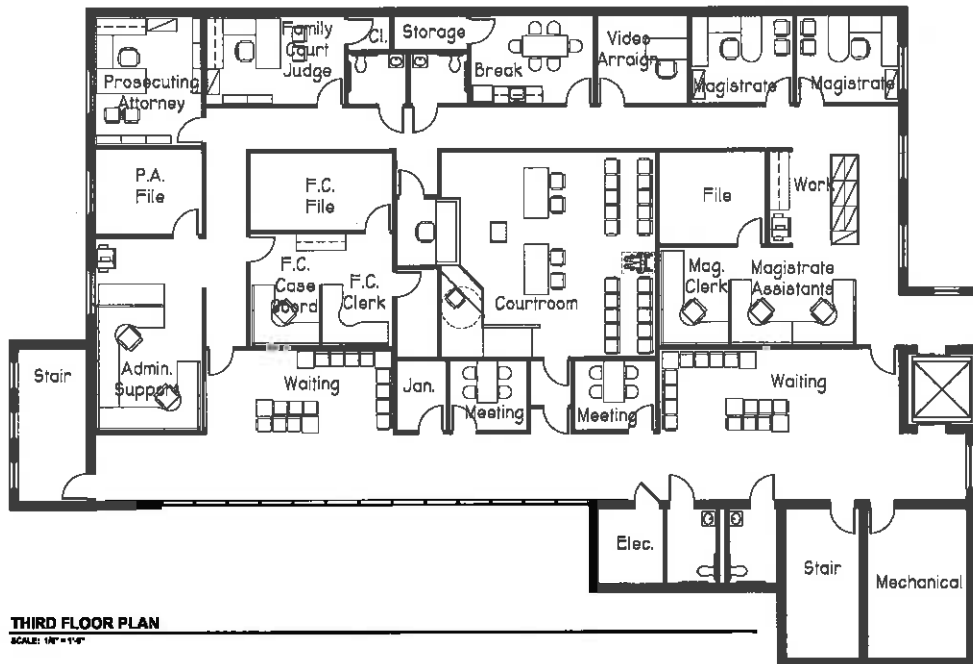
The Tucker County Sheriff, currently housed in leased space, will occupy the space that is being vacated in the original Courthouse.



# Tucker County Courthouse Annex Renovation

The office and courtroom spaces occupy the upper three floors, with enclosed parking on the ground floor. The enclosed parking on the ground level will ensure that all occupied spaces are located outside of the floodplain.

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.



# Bridgemont Community & Technical College

## *Davis Hall Renovation*



**LOCATION:**  
Montgomery, WV

**SIZE:**  
77,215 SF

**COMPLETION:**  
Summer 2012

**COST:**  
\$4M

**CONTACT:**  
Dr. Jo Harris, President  
619 2nd Avenue  
Montgomery, WV 25136  
304.734.6600



ZMM was selected by Bridgemont Community and Technical College and the West Virginia Community and Technical College System to provide professional architectural and engineering design services for the Renovation of Davis Hall in Montgomery. Davis Hall is a 77,215 SF classroom and laboratory facility that was constructed in 1970 for WVU-Tech. The exterior of the facility consists of architectural pre-cast concrete panels and a curtain wall system. The interior includes an open two story atrium, a large auditorium, and five levels of office and classroom space that is constructed of demountable partitions.

Prior to commencing the design effort, ZMM completed a thorough assessment of the facility. The assessment revealed significant life safety concerns that had not been previously identified, including the use of non-plenum rated plastic insulated wiring throughout the return air plenums, mechanical units located above ceilings in exit stairs, and a lack of adequate fresh air for building occupants. As part of this initial assessment, ZMM assisted in developing a scope of work for the current project, as well as a long range plan for future improvements to Davis Hall.

The scope of the current project includes life safety upgrades (replace non-plenum rated wiring, new fire alarm system), improvements to the building envelope (curtain wall replacement and re-roofing), hazardous material abatement, mechanical improvements (boiler and chiller replacement, outdoor air ventilation system replacement), and interior improvements (replace ceilings and lighting, upgrade furnishings).

# Goodwill Prosperity Center

*Historic Renovation*



**LOCATION:**  
Charleston, WV

**SIZE:**  
10,200 SF

**COMPLETION:**  
2015

**COST:**  
\$960,000

**CONTACT:**  
Cheri Bever, President  
Goodwill Industries  
215 Virginia Street, W.  
Charleston, WV 25302  
304.346.0811



Goodwill's newly renovated Prosperity Center is located on Virginia Street (West) in Charleston. This facility will help prepare members of the community for the workforce, and will expand Goodwill's outreach opportunities. Inside the facility is several classrooms, a computer room, and a Career Center that is equipped with all the tools needed to prepare and apply for a job. A spacious and colorful lobby provides a relaxed atmosphere for visitors. Inside the center is a "Suited for Success" room where work-appropriate clothing will be available to those who need it.

The building, which was once the Charleston Transit Authority's bus garage, underwent a major exterior transformation. Layers of stucco were removed to open up the old garage bays, and glass was infilled into these openings to give the center a tremendous amount of natural light. The original brick was exposed, repointed, and painted. The improvements made to the exterior showcase the historic nature of the building while upholding the modern amenities needed for today.



## **Client References**

**MAJ Dan Clevenger**

WV Army National Guard  
304.561.6539

**Major Gary Tincher, Chief of Staff Services**

West Virginia State Police  
West Virginia State Police Information Services Center  
304.746.2115

**David Molgaard, City Manager**

City of Charleston  
Charleston Civic Center  
304.348.8014

**Greg Melton, Director**

General Services Division  
State Office Buildings  
304.558.2317

**Joel Goughnour, County Administrator**

Tucker County Commission  
Tucker County Courthouse Annex  
304.478.2866

**Mr. Blair Couch, Commissioner**

No. 1 Court Square  
Suite 205  
Parkersburg WV 26101  
304.424.1978