	Department of Administration **Purchasing Division** **2019 Washington Street East** **Post Office Box 50130** **Charleston, WV 25305-0130**	**State of West Virginia** **Centralized Expression of Interest** **Architect/Engr**

Proc Folder: 1693133 **Doc Description:** Architectural/Engineering Services for PSC HQ HVAC Upgrade **Proc Type:** Central Contract - Fixed Amt			**Reason for Modification:**
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2025-05-23	2025-06-12 13:30	CEOI 0926 PSC2500000001	1

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PURCHASING DIVISION
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CHARLESTON WV 25305
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WV PURCHASING DIVISION

VENDOR

Vendor Customer Code:

Vendor Name : ZMM Architects and Engineers

Address : 222 Lee Street West

Street :

City : Charleston

State : WV **Country :** **Zip :** 25302

Principal Contact : Adam Krason

Vendor Contact Phone: 304.342.0159 **Extension:** 234

FOR INFORMATION CONTACT THE BUYER
Larry D McDonnell
304-558-2063
larry.d.mcdonnell@wv.gov

Vendor Signature X AG RK **FEIN#** 550676608 **DATE** 6/11/25

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.

(Printed Name and Title) Adam Krason, Principal

(Address) 222 Lee Street West

(Phone Number) / (Fax Number) 304.342.0159 / 304.345.8144

(email address) ark@zmm.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through *wv*OASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

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

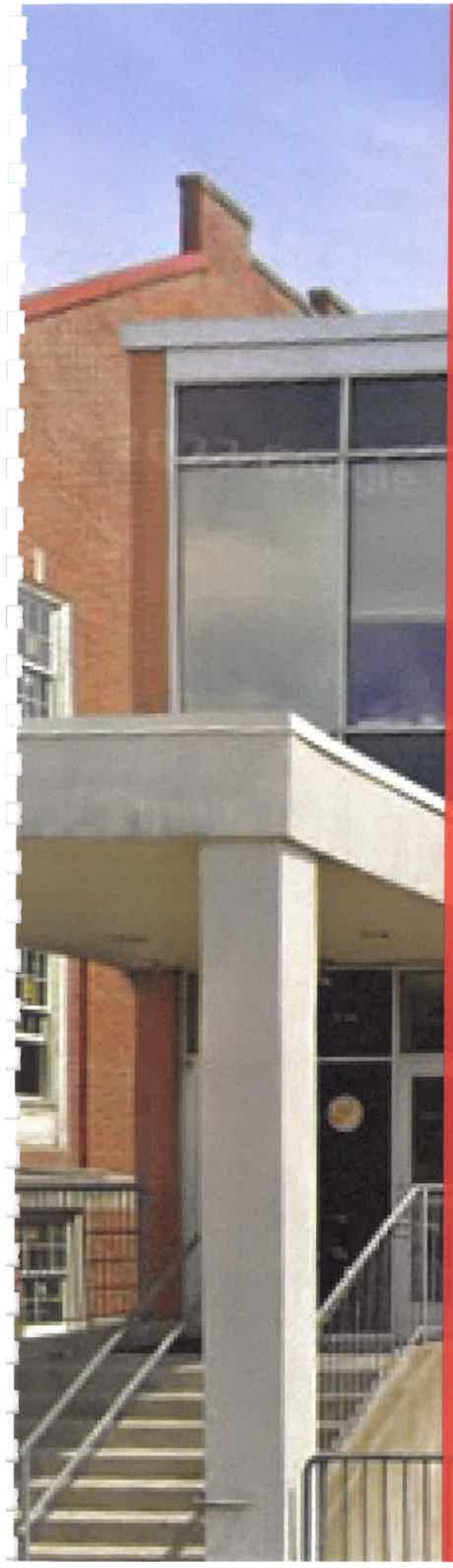
ZMM Architects and Engineers
(Company)

AK
(Signature of Authorized Representative)

Adam Krason, Principal 6/11/25
(Printed Name and Title of Authorized Representative) (Date)

304.342.0159 / 304.345.8144
(Phone Number) (Fax Number)

ark@zmm.com
(Email Address)



ZMM ARCHITECTS ENGINEERS

EXPRESSION OF INTEREST

To Provide Professional Architecture/Engineering Services

Public Service Commission Headquarters

HVAC Upgrade

PSC250000001
June 10, 2025

ZMM.COM

June 11, 2025

Larry McDonnell, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street, East
Charleston, WV 25305

Subject: Architectural/Engineering Services for PSC HQ HVAC Upgrade
CEOI 0926 PSC2500000001

ZMM
ARCHITECTS
ENGINEERS

Mr. McDonnell:

ZMM Architects and Engineers is pleased to submit the attached information to demonstrate our experience and qualifications to provide professional architectural and engineering services to upgrade and replace the HVAC systems at the WV Public Service Commission buildings located at 201 Brooks Street and 1116 Quarrier Street in Charleston, West Virginia.

We are familiar with the facilities where the upgrades need to occur. The 55,000 SF, three-story building on Brooks Street was constructed 40 years ago and is served by a chilled/hot water HVAC system comprised of three indoor air handling units (AHUs). AHU 1 (4150 cfm, 13 tons) is located on the ground floor, and AHU 2 (24,150 cfm, 73 tons) and AHU 3 (16,275 cfm, 55 tons) are located on the third floor. The AHU 1 Variable Air Volume (VAV) unit serves the hearing room on the ground floor. AHU 2 and AHU 3 are VAV units and serve the remainder of the ground floor and the second and third floors. AHU 2 and 3 have return fans on the roof. There is a three-ton split system computer room air conditioner. There are rooftop HVAC equipment at the Quarrier Street facility. With our experience, expertise, and familiarity with this facility and project, selecting ZMM for this work would allow us to hit the ground running and be prepared to get the work out for bid quickly. A more detailed background and approach for this project are provided in this packet.

Established in 1959, ZMM is a Charleston-based, full-service firm, with an integrated design approach, delivering all building-related design services including architecture, engineering (civil, structural, mechanical, and electrical), interior design, and construction administration in-house. We have a team of more than 70 employees and a longstanding relationship with the State of West Virginia serving many of the state's agencies. ZMM is noted for design excellence and client focus and has the right combination of technical expertise, local renovation experience, and HVAC design experience required to help successfully deliver this project.

ZMM has provided design services on renovation projects throughout West Virginia. ZMM's successful renovation approach has let our firm being entrusted with designing improvements to some of West Virginia's most prominent buildings including the Charleston Coliseum and Convention Center, the Culture Center, the Clay Center, the State Capitol, and the Greenbrier. Each of these projects included an HVAC upgrade as part of the scope. Additionally, ZMM has provided design services for a variety of HVAC projects all over the state, including many in Charleston and for governmental agencies including the Charleston Kanawha Health Department, the WV Lottery Headquarters, the Construction and Facilities Management Office, and a variety of facilities at the State Capitol Complex. We have also supported many HVAC projects for the WV Army National Guard and at PK-12 schools across the state. More highlights of our relevant project experience are included in this packet for your reference.

ZMM's commitment to quality design has been recognized with statewide and national design and planning awards. In fact, ZMM's commitment to design quality has been recognized by the American Institute of Architects (AIA) West Virginia Chapter with 27 design awards since 2005, an achievement that is unrivaled in West Virginia.

The trust of our clients and our team's dedication to design excellence, collaboration, and community engagement have led to our firm's growth, and a related accolade by Zweig Group. ZMM was ranked #26 on its 2025 Hot Firm List of the 100 fastest-growing architecture, engineering, and construction (AEC) firms in the U.S. and Canada.

Thank you for taking the time to review the attached expression of interest that includes information about our proposed approach for the HVAC system upgrades and replacement project, as well as ZMM's qualifications and relevant project experience. Additionally, please visit our website at 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 meeting with you to discuss the project in greater detail.

Respectfully submitted,
ZMM Architects and Engineers

Robert Doeffinger, PE
Principal

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FIRM PROFILES

ABOUT
ZMM ARCHITECTS AND 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, WV State Capitol Complex Buildings 5, 6, & 7, and armories for the West Virginia Army National Guard.

Maintaining a diverse practice for more than 65 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 35 staff. David Ferguson, AIA, and Adam Krason, AIA, LEED-AP joined in ownership of the firm 20 years ago. Randy Jones joined the firm in a leadership role when ZMM acquired Blacksburg-based OWPR Architects & Engineers in 2020 to create a regional design firm that employs more than 70 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

ZMM ARCHITECTS ENGINEERS

About ZMM Architects and 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 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 providing high-quality, client-focused design solutions that meet budget and schedule requirements. We listen, respond promptly with innovative and efficient solutions, and deliver quality projects and develop lasting relationships. Because at ZMM, it's about more than architecture, it's about building your legacy.

AWARD WINNING DESIGN

ZMM's commitment to quality has been recognized through both state and national design awards, as well as through long-term client relationships that we have developed. Our unique approach and integrated design services have led the firm to earn 27 design awards since 2005 – an unrivaled achievement.

2025

AIA Merit Award, West Virginia Chapter
Achievement in Architecture for New Construction
Clendenin Elementary School - Clendenin, WV

AIA Honor Award, West Virginia Chapter
Achievement in Architecture in Residential Design
Coopers Rock State Stargazing Cabins - Bruceton, WV

AIA Honor Award, West Virginia Chapter
Craftsmanship
Coopers Rock State Stargazing Cabins - Bruceton, WV

2020

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

AIA Merit Award, West Virginia Chapter
Achievement in Architecture in Sustainable Design
Ridgeview Elementary School - Sophia, WV

2019

AIA Honor Award, West Virginia Chapter
Excellence in Architecture for New Construction and Renovation
Charleston Coliseum & Convention Center - Charleston, WV

AIA Citation, West Virginia Chapter
Citation for Achievement in Architecture in Interior Renovation
Charleston Coliseum & Convention Center - Charleston, WV

AIA People's Choice Award, West Virginia Chapter
Charleston Coliseum & Convention Center - Charleston, WV

2018

AIA Citation, West Virginia Chapter
Citation for Unbuilt Project
Charleston EDGE - Charleston, WV

ZMM ARCHITECTS ENGINEERS

Award Winning Design (cont.)

2017

AIA Merit Award, West Virginia Chapter
Achievement in Architecture
Cabell County Explorer Academy - Huntington, WV

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

2016

AIA Merit Award, West Virginia Chapter
Achievement in Architecture in Interior Design
Christ Church United Methodist Education Wing - Charleston, WV

AIA Merit Award, West Virginia Chapter
Achievement in Architecture in Interior Design
Christ Church United Methodist Education Wing - Charleston, WV

2015

AIA Honor Award, West Virginia Chapter
Excellence in Architecture in Sustainable Design
Edgewood Elementary School - Charleston, WV

AIA Merit Award, West Virginia Chapter
Achievement in Architecture
Kenna Elementary School - Kenna, WV

2014

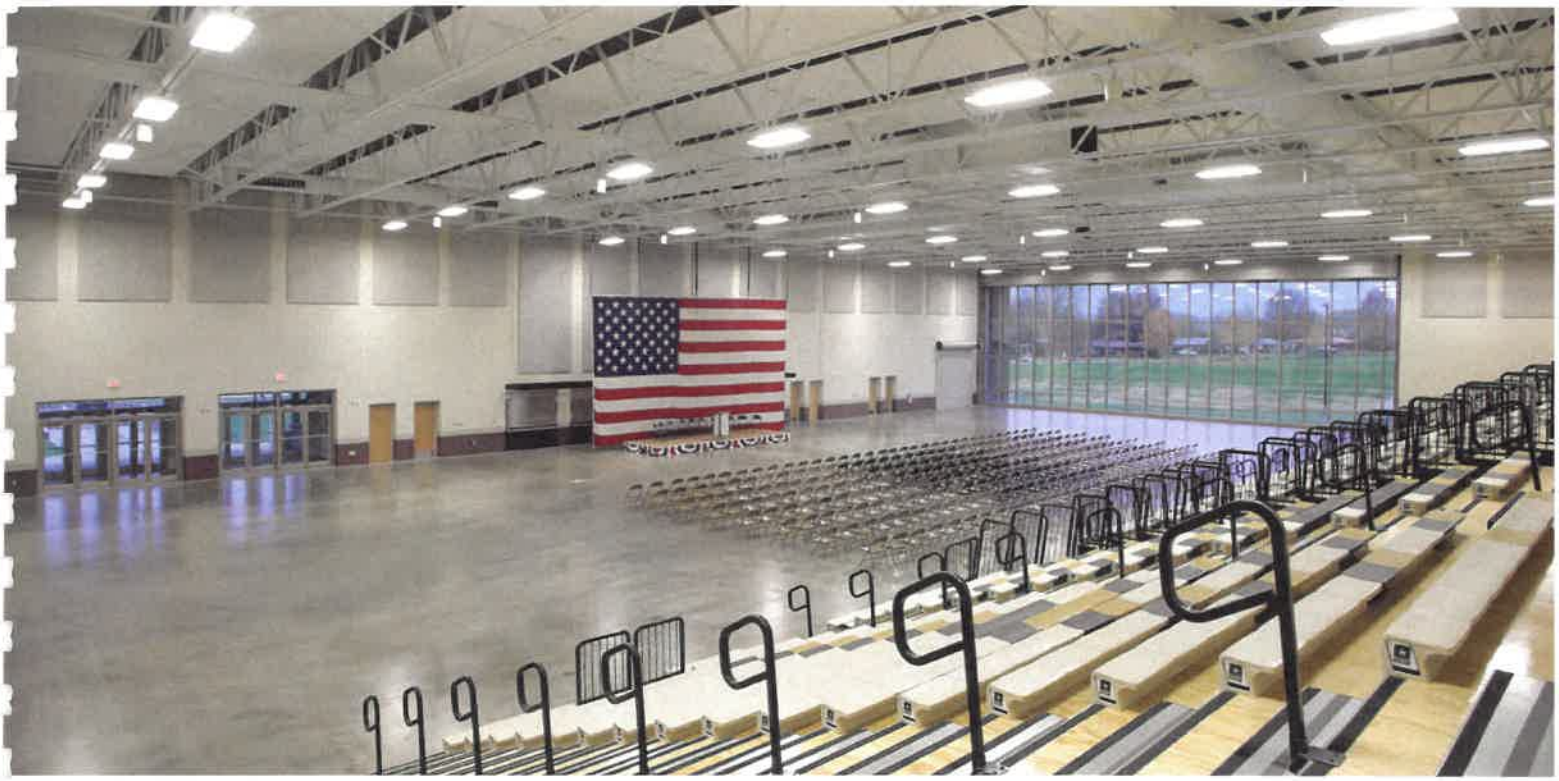
AIA Merit Award, West Virginia Chapter
Achievement in Architecture in Sustainable Design
Huntington East Middle School - Huntington, WV

AIA Merit Award, West Virginia Chapter
Achievement in Architecture
Southern WV Community & Technical College
Applied Technology Center - Williamson, WV

AIA Merit Award, West Virginia Chapter
Achievement in Architecture in Interiors/Graphics
Girl Scouts of Black Diamond Council - Charleston, WV

2012

AIA Honor Award, West Virginia Chapter
Excellence in Architecture
West Virginia Housing Development Fund - Charleston, WV



B

RELEVANT EXPERIENCE

CHARLESTON COLISEUM & CONVENTION CENTER

LEED SILVER

LOCATION	SIZE	COMPLETION	COST	AWARDS
CHARLESTON, WV	283,000 SF	2018	$100M	2019 AIA WV HONOR AWARD, CITATION & PEOPLE'S CHOICE AWARD

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.

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ZMM ARCHITECTS ENGINEERS

BUILDING 37 WINDOW, HVAC, ROOF AND ENVELOPE UPGRADES

LOCATION
CHARLESTON, WV

SIZE
151,000 SF

COMPLETION
TBD

ZMM and WDP partnered to support upgrades at Building 37, also known as the Department of Environmental Protection.

Building 37 was constructed in 2003 and is a three-story building featuring ribbon windows and concrete masonry veneer with a large entrance curtain wall. Water infiltration around the windows was an ongoing issue with the building, leading to isolated repairs undertaken in 2011. However, these repairs did not address the underlying issues and further evaluation was required. WDP teamed with ZMM to perform an evaluation of the building that incorporated both building envelope components and HVAC systems.

WDP performed a field investigation and performed diagnostic water testing and exploratory openings to identify the root cause of the water infiltration. It was found that a water resistive barrier was not incorporated into the exterior wall and joints in the sill flashing permitted a significant amount of water to drain down into the wall cavity. Without a mechanism to properly drain this water out of the wall cavity, it is directed towards the interior of the building at the windows. This led to deterioration of the wood sill supports below the windows as well as corrosion of structural steel elements

ZMM ARCHITECTS ENGINEERS

WDP & Associates

WEST VIRGINIA LOTTERY HEADQUARTERS

LOCATION	SIZE	COMPLETION	COST
CHARLESTON, WV	42,082 SF	2016	$7.5M

This project is an extensive renovation of an existing 13-story office building and 7-story parking garage in downtown Charleston, WV.

Renovations within the office building consist of three existing tenant floors, relocation of the fitness center, and replacement of the roof. The WV Division of Insurance is being relocated to floors 7, 8, and 9. Off the renovated elevator lobbies on each floor is a reception area which leads to an interior space of enclosed offices. A tenant space on the sixth floor is being renovated into the new fitness center. Construction on the roof includes the replacement of insulation and membrane and the installation of new roof davits and stainless-steel guardrail.

The parking deck will be undergoing renovation, including structural repairs, electrical upgrades, and an addition to the storage warehouse. It was determined that bearing pads need to be replaced under the framing members, concrete structure and topping slabs needed repair, and spandrel panels required epoxy injection to repair cracking. Driving surfaces are receiving new waterproofing, sealant joint replacement, and restriping. The circulation connector required partial reconstruction of the steel deck and floor slabs. Electrical improvements will consist of new LED lighting and additional pole fixtures on the top level. The storage warehouse is being increased by 1,800 SF and will consist of masonry walls clad in EIFS with a sloped steel-framed roof and single-ply membrane system.

ZMM ARCHITECTS ENGINEERS

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 assisted the State of West Virginia General Services Division with various improvements to the buildings, which commenced with an assessment that examined the condition of the buildings, as well as cost and phasing options for various upgrades. Improvements undertaken have ranged from substantial renovations to maintenance and repair projects. ZMM provided design services for the renovation of the 10th Floor of Building 5 for the Office of Technology, which focused on demonstrating the potential for renovating the floors 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 was delivered considerably under the anticipated budget.

The next phase of renovation involved abatement, demolition, new construction, and updated life safety systems. ZMM assisted with roof replacement for all three buildings, utilizing white EPDM roofing material, with consideration being given to sustainability. ZMM also assisted with expanding the electrical courtyard, improving the electrical service entry, replacing windows and entry doors, providing design services to replace the caulk between the exterior limestone and precast panels, and a valve replacement project to isolate mechanical risers.

ZMM ARCHITECTS ENGINEERS

WV REGIONAL TECHNOLOGY PARK

LOCATION	SIZE	COMPLETION
SO. CHARLESTON	VARIOUS	ONGOING

ZMM has provided Architectural and Engineering design services to multiple facilities located at the Regional Technology Park.

Building 704

ZMM is 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.

Building 740

Steam Plant

When the Campus Steam Physical Plant for West Virginia Regional Technology Park was scheduled for closure in 2012, individual Steam. Boiler systems were required for each building. Building 740 was built in 1960 as a research facility for Union Carbide. It is still predominantly a laboratory building, with a 24/7 100% Outside Air HVAC System of approximately 175,000 cfm capacity.

Lobby Renovation

The lobby renovation will enhance the tenant experience with updated aesthetics to provide a welcoming environment upon entrance. The renovation will include a handicap lift to meet ADA requirements. The front space will also be reconfigured to convert a current work room into a conference room.

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ZMM ARCHITECTS ENGINEERS

WV Regional Technology Park (cont.)

Building 770

The 122,180 SF 4-story laboratory building was constructed in 1959, consists of 44,880 SF of laboratories, 22,800 SF of laboratory office space, 8,200 SF of executive office space, and 46,300 SF of service and utility space. A 2,500 SF laboratory annex with 2-story walk-in fume hoods was constructed in 1995. The building has a steel frame structure with a brick and curtain wall veneer with one fume hood in each lab. A typical laboratory suite consists of labs and offices on a double loaded corridor. There are approximately 100 individual labs. laboratory suite consists of labs and offices on a double loaded corridor. There are approximately 100 individual labs.

The building is served by two 500 ton centrifugal chillers and campus steam. The laboratory's exhaust system consists of individual exhaust utility sets per hood. The utility sets are located in the mechanical penthouse. The conditioned air delivery system to the laboratory consists of large 100% outdoor air chilled water, steam AHU's. Only the executive office area is served by a unit with return air. Electrical service is provided by a 2.4 KV line-up of double ended switchgear, transformed to 480 volts, the chillers are fed directly from the 2.4 KV switchgear, and metered separately.

Aside from minor renovations to enclose the monumental stairway in the lobby, the executive office suite improvements can be limited to ceilings, lighting, finishes, and improved data access. It may be desirable to replace that HVAC system although the existing system is serviceable. Major building improvements are required in the laboratory areas. Through our analysis of the life safety code and conversation with the state fire marshal, a two-hour fire rated wall is required to separate the laboratory from the exit corridor. The duct and pipe chases adjacent to the laboratories must also be reconstructed as two-hour fire rated shafts. Additionally, the labs must be reconfigured so that an occupant of the lab does not exit adjacent to the fume hood. This can be accomplished by either relocating or eliminating some of the fume hoods. To accomplish the required improvements to the labs, the Hauserman partitions including the chases, corridor, office ceiling and lighting as well as all existing ductwork will be demolished. Essentially, the lab wings will need to be reconstructed.

Typical modern laboratories maintain humidity control which means humidification during the heating season. As the building exists, condensation will occur on the interior face of the window and curtain wall system. If humidity control is desired, replacement of the curtain wall is necessary.

As presently configured, the laboratory constant volume exhaust and make-up air systems operate 24 hours a day. Maintaining the systems in their current condition will result in large energy consumption estimated at $13.25 per building SF annually. The steam and electric are metered at the building. The campus energy losses for each utility are added pro rata to the metered quantities. The annual energy charge based on 3 year data is between $1,300,000 and $1,600,000. It is very difficult to alter the existing air handling equipment to provide a system equivalent to a modern efficient laboratory system. The most effective way to improve energy efficiency in a large lab facility is to use a variable volume exhaust and make-up air system. The expense of treating the outdoor make-up air is reduced by providing exhaust and make-up air only for in-use fume hoods. To accomplish these improvements, a separate 100% outdoor air variable volume air handling system would be provided for the lab spaces and a separate variable volume system with supply and return air would be provided for the offices.

WEST VIRGINIA STATE CAPITOL

LOCATION
CHARLESTON, WV

COMPLETION
2007-2021

ZMM Architects and 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.

GIRL SCOUTS OF BLACK DIAMOND COUNCIL

LOCATION	SIZE	COMPLETION	COST	AWARDS
CHARLESTON, WV	24,650 SF	2013	$5M	2014 AIA WV MERIT AWARD

The Girl Scouts of Black Diamond Council Volunteer Resource Center and Girl Zone/ Urban Camp is located in Charleston, WV.

The facility includes administrative offices, community gathering spaces, and a small hotel (Urban Camp) for Girl Scouts visiting Charleston. The Girl Scouts undertook the effort to transform the facility, creating an architectural style that would appeal to girls and young women, while utilizing colors and materials that would not become dated.

The main building brings all of the operations together under one roof. This building includes a volunteer meeting room, employee office space, flexible conference spaces, and a retail shop. The Girl Zone/Urban Camp reflects a more residential/outdoor tone with the use of a wood veneer, while the retail store has floor-to-ceiling storefront.

The adjacent Girl Zone/Urban Camp conveys the feeling of a hotel or hostel and offers a place that Girl Scouts can stay during a visit to Charleston. The "hotel rooms" utilize a dormitory arrangement, while the finishes and furnishings are more like a youth hostel than a camp. The rear of the Girl Zone/Urban Camp reflects a more traditional camp environment, and includes an outdoor dining area and a fire pit. With the mixed-use functions of retail, office, and residential, this unique project is a vibrant addition to the emergent West Side community.

GOODWILL PROSPERITY CENTER

LOCATION	SIZE	COMPLETION	COST
CHARLESTON, WV	10,200 SF	2015	$960K

Goodwill's 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 are 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. The center has 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.

ZMM ARCHITECTS ENGINEERS

CONSTRUCTION & FACILITIES MANAGEMENT OFFICE

LOCATION	SIZE	COMPLETION	COST	AWARDS
CHARLESTON, WV	19,935 SF	2008	$3.5M	2009 AIA WV MERIT AWARD

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

Capitol Complex Building 6 Floors 3,4, and 5 - 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 (2015) - New Cooling Chiller

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.

ZMM
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ENGINEERS

HVAC RENOVATION EXPERIENCE (CONT.)



Additional HVAC Projects

CAMC General - Chiller 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
Pleasant Hill Elementary School - HVAC Replacement
Keyser Middle School - HVAC Replacement
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

ZMM ARCHITECTS ENGINEERS

C

TEAM QUALIFICATIONS

Robert Doeffinger

PE

Principal

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 more than 45 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.

EDUCATION

Master of Science Architectural Engineering
The Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering
West Virginia University, 1973

LICENSURE

WV, VA, PA, OH, TN, KY, NY, NH, ME, NC, SC, FL, NJ, GA

AFFILIATIONS

ASHRAE - Member of the Technical Committee Load Calculations Data and Procedures for 25 years, serving as chairman. Presently Chairman of the Research Subcommittee

2024 Outstanding Engineering Alumni - The Pennsylvania State University, one of 12 Engineering Alumni out of 100,000 graduates

2021 Industrial and Professional Advisory Council – College of Engineering at The Pennsylvania State University

2019 Marshall University Honorary Alumni Award of Distinction College of Engineering

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

PROJECT EXPERIENCE

First Presbyterian Church Assessment - Charleston, WV

Charleston Coliseum and Convention Center - Charleston, WV

State Office Buildings #5, 10th Floor - Charleston, WV

WV Capitol Complex Buildings #5, #6, and #7 - Charleston, WV

Marshall University (Multiple Projects) - Huntington, WV

West Virginia Regional Technology Park - S. Charleston, WV

- Building 704
- Building 740
- Building 770

Joint Interagency Training and Education Center (JITEC) - Kingwood, WV

West Virginia Regional Jails

West Virginia Army National Guard Projects

BridgeValley Community and Technical College - Montgomery, WV

Appalachian Regional Hospital (Multiple Projects) - Beckley, WV

The Plaza at the King of Prussia - Philadelphia, PA

ZMM ARCHITECTS ENGINEERS

ADAM KRASON

AIA, LEED AP, ALEP

Principal

EDUCATION

Bachelor of Architecture
The Catholic University of America, 1998

Bachelor of Civil Engineering
The Catholic University of America, 1997

LICENSURE

Virginia, West Virginia, Ohio, Kentucky, Maryland, New Jersey, North Carolina, Louisiana

AFFILIATIONS

Association for Learning Environments

WV Board of Architects, President (2019 - Current)

American Institute of Architects, Stategic Council (2033/23)

Charleston Area Alliance, Board Chair

Goodwill Industries of Kanawha Valley, Past Board Chair

Clay Center, Board of Directors

WV Symphony Orchestra, Board of Directors

Charleston Urban Works, Board of Directors

Charleston Municipal Planning Commission

Charleston Historic Landmarks Commission

Education Alliance, Board Chair (2022/23)

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 and energy efficiency and has participated and presented at sustainable design seminars throughout the region. Mr. Krason also serves as President/CEO and serves on the Board of Directors and is responsible for firm management, business development, and corporate philanthropy at ZMM. In addition to his role at ZMM, Mr. Krason is actively engaged in the community, serving on a variety of statewide and local civic and non-profit boards.

PROJECT EXPERIENCE

WV State Laboratory - So. Charleston, WV

WV Department of Agriculture Laboratory Evaluations - Guthrie, WV

Capital Sports Center - Charleston, WV

Shawnee Sports Center - Institute, WV

The Clay Center for the Arts and Science (Multiple Projects) - Charleston, WV

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

Charleston Coliseum and Convention Center - Charleston, WV

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

Wood County Justice Center - Parkersburg, WV

Wood County Resiliency Center - Parkersburg, WV

Construction and Facilities Management Office (WVARNG) - Charleston, WV

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

Girl Scouts of Black Diamond Council - Charleston, WV

Goodwill Prosperity Center - Charleston, WV

Nathan Spencer

AIA

Project Architect

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.

EDUCATION

Bachelor of Architecture
University of Tennessee, 2007

LICENSURE

West Virginia

AFFILIATIONS

WV Chapter, American Institute of Architects, Member

PROJECT EXPERIENCE

Kenova AFRC SCIF Building - Kenova, WV

Logan-Mingo Readiness Center - Holden, WV

Jackson County AFRC - Millwood, WV

Joint Interagency Training and Education Center (JITEC) - Kingwood, WV

Buckhannon Readiness Center - Buckhannon, WV

Parkersburg Readiness Center (not built) - Parkersburg, WV

Marshall Readiness Center - Moundsville, WV

AASF #1 and #2 Hangar Additions

Mountaineer Challenge Academy South - Montgomery, WV

Morgantown Readiness Center - Morgantown, WV

Highland Hospital - Charleston, WV

Charleston Coliseum & Convention Center - Charleston, WV

Shawnee Sports Center - Institute, WV

Tucker County Courthouse Annex - Parsons, WV

Judge Black Courthouse Annex - Parkersburg, WV

Intuit Prosperity Hub - Bluefield, WV

ZMM ARCHITECTS ENGINEERS

JOHN PRUETT

PE, LEED AP

Senior Mechanical Engineer

Mr. Pruett is responsible for overseeing the design of the HVAC systems, ensuring that the HVAC systems meet the program requirements, and 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. Mr. Pruett coordinates with other disciplines ito 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 engineering career with a manufacturing company in 1994. In 1998, he made a career change and joined an engineering consulting firm. He has a broad range of experience in HVAC systems design, including government, education, office buildings, 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.

EDUCATION

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

LICENSURE

West Virginia, Virginia, Indiana, Maryland, Louisiana

LEED Accredited Professsional

AFFILIATIONS

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Member

United States Marine Corps – 14 Years

PROJECT EXPERIENCE

WVDNR District 5 Headquarters - Alum Creek, WV

WV State Police Headquarters - So. Charleston, WV

Wood County Resiliency Center - Parkersburg, WV

WV State Capitol Renovations - Charleston, WV

General Services Division Surplus Property - Dunbar, WV

WV Housing Developemnt Fund Office Building - Charleston, WV

Tucker County Courthouse Renovations - Parsons, WV

Gilmer County Courthouse Renovations - Glenville, WV

St. Margaret's Judicial Center 3rd Floor Renovations - Martinsburg, WV

Jackson County Maintenance and Transportation - Ripley, WV

Jackson County EMS Building - Ripley, WV

WV Army National Guard - WV
- **Camp Dawson Building 106**
- **Camp Dawson Building 245**
- **Camp Dawson Building 246**
- **Camp Dawson Building 301**
- **Camp Dawson Mail Facility**
- **Marshall County Readiness**
- **Camp Dawson Job Challenge Academy**

JAMES LOWRY

PE, BCxA

Mechanical Engineer

Mr. Lowry is a registered Professional Engineer with design experience in the following.

Industrial
Bayer Material Science, West Virginia Higher Education Policy Commission, Kuraray America, Armstrong Flooring, Covestro Laboratories.

Educational
Renovations, evaluations and additions at Marshall University, West Virginia University Institute of Technology, Mercer County Schools and various other Schools and Universities statewide.

Commercial
West Virginia Capitol Complex, West Virginia Parkways Authority

Heath Care
Renovations, evaluations and additions at Cabell Huntington Hospital, Charleston Area Medical Center, Charleston Surgical Center, West Virginia Department of Health & Human Resources, Huntington VA Hospital and other various healthcare facilities statewide.

EDUCATION

Bachelor of Science in Mechanical Engineering, West Virginia State University Institute of Technology, 2004

LICENSURE

West Virginia, Pennsylvania, Ohio & Maryland

ASHRAE Building Commissioning BCxP Certified

AFFILIATIONS

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

PROJECT EXPERIENCE

WVARNG - WV
- Mountaineer Challenge Academy South Renovations
- Kenova SCIF
- Camp Dawson Building 202
- STF Building B

WV State Capitol Building #6 - Charleston, WV

Capitol Guard House - Charleston, WV

Charleston Fire Department Fitness Center Assessment - Charleston, WV

GSD ASHRAE Building Assessment - Charleston, WV

GSD Consulting Survey-Elect Media - HVAC - Charleston, WV

The Greenbrier Chiller and HVAC Projects - White Sulphur Springs, WV

Marshall University - Huntington, WV
- Drinko Library Mechanical and Electrical Study
- Replacement Multizone HVAC
- Prichard Hall Chiller Replacement
- Drinko/Science Building
- Smith Hall Cooling Tower Replacment

Charleston Area Medical Center (Memorial) 6th Floor Fit-out, Boilers, Laboratory Renovations - Charleston, WV

Charleston Area Medical Center (General) Chiller Plant One-Line, and Chiller Replacement - Charleston, WV

ZMM ARCHITECTS ENGINEERS

EDUCATION

Bachelor of Science in Mechanical Engineering, West Virginia State University Institute of Technology, 2004

LICENSURE

West Virginia, Pennsylvania, Ohio & Maryland

ASHRAE Building Commissioning BCxP Certified

AFFILIATIONS

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Commercial
West Virginia Capitol Complex, West Virginia Parkways Authority

Heath Care
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Capitol Guard House - Charleston, WV

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Charleston Area Medical Center (General) Chiller Plant One-Line, and Chiller Replacement - Charleston, WV

FRANKIE KANTSIOS

PE

Electrical Engineer

As an electrical engineer, Mr. Kantsios is consistently motivated to adapt to the team's needs in assessing and finalizing the project on time. He is an experienced professional with a proven record of managing projects from concept to completion while supporting the unique needs for the specific project at hand. By carrying out engineering and design services for a diverse field of projects since 2013, Mr. Kantsios has expanded his knowledge and understanding of the industry. He has been actively involved in the design of a wide array of new structures and renovations to include K-12 educational buildings, higher education buildings, healthcare facilities, office buildings, banks, restaurants, hotels, automotive dealerships and service centers, apartment complexes and dorms, industrial facilities and warehouses, and athletic facilities. Mr. Kantsios excels at creating effective solutions and developing opportunities that further establish organizational goals.

EDUCATION

Bachelor of Science
Old Dominion University, 2019

Associate of Applied Science
New River Community College, 2016

LICENSURE

Virginia, West Virginia, Ohio

PROJECT EXPERIENCE

WV Regional Technology Park - Charleston, WV
- Street Lighting Replacement

West Side/ Elk City Street Lighting Replacement - Charleston, WV

WV General Services - Charleston, WV
- Building 31 Parking Garage Lighting and Security Replacement
- Building 35 Lightning Protection Replacement
- Building 37 HVAC Replacement and Energy Improvements

Remington (TC Energy) Office Building - Charleston, WV

Goodwill Industries of Kanawha Valley - Charleston, WV

HOPE Community Center - Charleston, WV

Trace Fork Soccer Complex Improvements - Charleston, WV

Nicholas County Schools - Nicholas County, WV
- Glade Creek Elementary School

Raleigh County Schools - Raleigh County, WV
- Shady Spring Elementary School Access Road

Mineral County Schools - Mineral County, WV
- New Frankfort PK-4 School Site Design

Jefferson County Schools - Jefferson County, WV
- New Ranson Elementary School
- New Shepherdstown Elmentary School

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PE

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New River Community College, 2016

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Virginia, West Virginia, Ohio

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Trace Fork Soccer Complex Improvements - Charleston, WV

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- Shady Spring Elementary School Access Road

Mineral County Schools - Mineral County, WV
- New Frankfort PK-4 School Site Design

Jefferson County Schools - Jefferson County, WV
- New Ranson Elementary School
- New Shepherdstown Elmentary School

MIKE FLOWERS

Plumbing Designer / Mechanical Technician

Mr. Flowers is responsible for the design of Plumbing systems, ensuring that the systems are designed to meet the needs of the owner and utilize the latest plumbing technologies to provide the most energy efficient design possible. Mr. Flowers has participated on several LEED registered projects; one of his key contributions to these projects is selecting plumbing fixtures and accessories in his design that require less utility consumption, so significant utility savings are passed on to the owner and the environment as well.

Mr. Flowers has had extensive experience in the field of construction where he frequently visits ZMM's current projects under construction and thoroughly checks the contractors work to ensure compliance with project specifications and construction documents.

EDUCATION

Associate in Mechanical Drafting and Design; 1990, Ben Franklin Career and Technical Center

Associate in Electronics Technology; 1987, Putnam Career and Technical Center

Associate of Science; 1988, West Virginia State University

Completed Dale Carnegie course in Effective Communications and Human Relations and Skills for Success

PROJECT EXPERIENCE

WVARNG - WV
- Morgantown Readiness Center
- Logan-Mingo Readiness Center
- Jackson County AFRC
- Mountaineer Challenge Academy
- Buckhannon Readiness Center
- Buildings 202, 246, and 301
- Camp Dawson Mail facility

WV State Capitol Senate Bathroom Renovations - Charleston, WV

Tucker County Courthouse - Annex - Parsons, WV

Wood County Justice Center - Parkersburg, WV

WV State Police Headquarters Building Renovation - So. Charleston, WV

Goodwill Industries - Parkersburg, WV

ZMM ARCHITECTS ENGINEERS

MIKE FLOWERS

Plumbing Designer / Mechanical Technician

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- Logan-Mingo Readiness Center
- Jackson County AFRC
- Mountaineer Challenge Academy
- Buckhannon Readiness Center
- Buildings 202, 246, and 301
- Camp Dawson Mail facility

WV State Capitol Senate Bathroom Renovations - Charleston, WV

Tucker County Courthouse - Annex - Parsons, WV

Wood County Justice Center - Parkersburg, WV

WV State Police Headquarters Building Renovation - So. Charleston, WV

Goodwill Industries - Parkersburg, WV

ZMM ARCHITECTS ENGINEERS

KEITH L. GONZALES

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

EDUCATION

Associate Degree, Mechanical Engineering
Pittsburgh Technical Institute - 1978

PROJECT EXPERIENCE

Wood County Resiliency Center - Parkersburg, WV

Wood County Courthouse - Bell Tower Renovation - Parkersburg, WV

WV State Office Buildings 5, 6, & 7 - Charleston, WV

Charleston Coliseum and Convention Center - Charleston, WV

Girl Scouts of Black Diamond Renovation - Charleston, WV

Christ Church United Methodist - Charleston, WV

National Weather Center Building (NOAA) - So. Charleston, WV

WVDNR - Pipestem State Park Resort Renovations - Pipestem, WV

WVDNR - Claudia Workman Fish and Wildlife Education Center - Alum Creek, WV

BOYD CAT- Nitro and Belle Locations, WV

YMCA Sojourners Shelter - Charleston, WV

BridgeValley CTC Nursing Wing Renovation - So. Charleston, WV

New River Health Medical Center Renovation - Oak Hill, WV

Valley Health Systems - Huntington, WV

ZMM ARCHITECTS ENGINEERS

D

PROJECT APPROACH

PROJECT APPROACH

BACKGROUND AND UNDERSTANDING

It is ZMM's understanding that the project includes replacement and upgrades to the existing 40-year-old HVAC systems at the Public Service Commission facilities located at 201 Brooks Street and 1116 Quarrier Street in Charleston, West Virginia.

A past evaluation of the Brooks Street facility found that the 55,000 SF, three-story building has an HVAC system consisting of three chilled/hot water indoor air handling units (AHUs). AHU 1 (4150 cfm, 13 tons) is located on the ground floor while AHU 2 (24,150 cfm, 73 tons) and AHU 3 (16,275 cfm, 55 tons) are located on the third floor. The AHU 1 Variable Air Volume (VAV) unit serves the hearing room on the ground floor. AHU 2 and AHU 3 are VAV units and serve the remainder of the ground floor plus second and third floors. AHU 2 and 3 have return fans on the roof. There is a three-ton split system computer room air conditioner.

Two natural gas hot water boilers (1,200 mbh) provide hot water to the 3 AHU's. A third, smaller boiler (350 mbh) provides hot water to miscellaneous heat only cabinet heaters. The original temperature controls in the building are pneumatic. In recent years, the control of the terminal units was provided with digital controls.

Variable air volume is distributed to the interior zones through twenty-one cooling only VAV terminal units. The exterior zones are served with fifty-five fan powered boxes with two stage electric heat.

It was recommended as a result of the evaluation in a report supplied to the PSC on February 13, 2025, that all the major air conditioning equipment has reached its useful life and should be replaced within the next five years. The HVAC controls are outdated, and an all new DDC control system was recommended. It was also suggested to replace the terminal units, both the interior cooling terminal units and exterior zone heating fan powered units. The interior zones can be replaced with VAV cooling only terminal units. The exterior heating fan power terminal units can be replaced with VAV units with electric SCR controlled terminal reheat using existing wiring.

The report also shared that the three AHU's have reached their useful life. AHU 1 should be replaced. AHU 2 and 3 roof top return air fans have not worked for some time. AHU 1 is not the quality of AHU 2 and 3, and those units could be rebuilt by replacing components like dampers, valves, drain pans, and controls or the units replaced with similar capacity roof top units.

In that report, two choices for consideration were provided.

- Rebuild existing AHU 2 and 3, maintaining the housing and replacing all components including return air fans. The existing boilers can be replaced when they are no longer maintainable. The existing outdoor air cool and chiller providing chilled water to AHU 1, 2, and 3 will need replaced within five years.

- Replace existing AHU 2 and 3 with new air-cooled roof top units with natural gas fired morning warm-up. This option will eliminate boiler 1 and 2 and the air-cooled chiller. Small boiler 3 can be maintained to serve existing cabinet heaters or the boiler can be eliminated and the cabinet heaters replaced with electric units. Structural analysis is required to

determine if the existing structural system can support the new roof top units. In the short term, AHU 1 needs replaced. In the February report, we recommended replacing the indoor air handler with a DX coil and remote air-cooled condenser and small SCR controlled electric heating coil. Options 1 and 2 are still available for rebuilding or replacing AHU 2 and 3.

Two options for upgrading or replacing the two large indoor air handling units (AHU 2, AHU 3) on the third floor were also provided in the report.

- The first option is to rebuild the AHUs in place and continue to maintain existing boiler and outdoor chiller. The chiller will need to be replaced within five years.

- The second option is to replace the 2 AHUs with 2 gas fired roof top units (RTU), thus eliminating the need for boilers and air-cooled chillers. A structural analysis will need to be performed to ensure the structural ability of the roof to support the new RTU's.

Electrical distribution will need to be altered by removing service to the existing chiller and distributing to the new roof top unit.

The building HVAC control system needs replaced with a whole building DDC control system and eliminating what remains of the pneumatic control system.

Replace the VAV terminal units served by AHU 1,2,3. There are 21 interior zone VAV units and 55 fan powered VAV units with 2 stage electric heat. Replace the 21 interior units in kind. Replace the 55 perimeter units with VAV units and SCR electric reheat. Recommendations to eliminate the existing small boiler that serves heating cabinet heaters with electric units, although the existing equipment could be left in place and maintained, were also included in the report.

During the evaluation but not included in the report, we are also aware that there is rooftop equipment at 1116 Quarrier Street that the solicitation mentions is part of this project. A more in-depth evaluation of this equipment would be completed during a follow up examination of facilities outlined in the approach below.

APPROACH

Renovation projects require a unique approach, and ZMM has extensive experience providing design services for renovation and upgrade projects. The first phase in a successful renovation project involves conducting a thorough examination of the existing facilities. ZMM will continue investigating the existing site and facility with a team of architects and engineers. In this case, our team would focus on improvements to the HVAC system and the impact the improvements will have on other building and life safety systems. Our familiarity with the facilities will help expedite this effort.

ZMM
ARCHITECTS
ENGINEERS

DEVELOP CONSTRUCTION PHASING PLAN

We anticipate the building will be in use during construction. ZMM will develop a staged construction plan with the owner to maintain building function with the least amount of disruption during construction. We have extensive experience in completing projects while the facilities are in use. In renovating the Charleston Coliseum and Convention Center, the building was occupied throughout all phases of construction.

CONSTRUCTION PHASES

Typical construction phase services include the following.

- Participation in Pre-Construction Meeting
- Coordination Construction Phase Testing
- Observation of Construction Progress
- Working Collaboratively with the Owner and Construction Team
- Serve as the Liaison Between the Owner and Contractor
- Participate in Regular Site Visits/Construction Progress Meetings
- Participate in Pre-installation Meetings
- Certify Applications for Payment by the Contractor
- Process RFI's, Submittals, and Change Orders
- Conduct Above Ceiling HVAC Inspections
- Conduct Punch-List and Final Inspections
- Coordinate Testing and Balancing or Commissioning
- Complete LEED Documentation (if required)
- Issue Certificate of Substantial Completion
- Schedule/Coordinate 11-Month Warranty Inspection

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 State of West Virginia facilities, including several projects that included replacements and updates to HVAC systems. ZMM's team has successfully collaborated on multiple projects for state agencies, and each team member is familiar with the standards, requirements, and processes that are utilized by the State of West Virginia.

ZMM QUALITY CONTROL PLAN

Quality control during the design phase begins with the selection of team members with experience working on projects that are like the current effort. ZMM Architects and Engineers staff possesses the HVAC 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 PSC. 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.

ZMM ARCHITECTS ENGINEERS

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%/100%)
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

As part of our effort to ensure our ability to meet the WVARNG's budget, ZMM will rely on both historic bidding data (for addition/alteration and adaptive reuse projects) as well as independent estimates to verify the project budget. For this project ZMM would utilize Win Strock to provide an independent estimate. ZMM and Mr. Strock have successfully collaborated on multiple projects, including the following.

- Camp Dawson Building 202, 245, 246, 301, and 106 Improvements
- Buckhannon Readiness Center Phase 2
- Marshall County Readiness Center
- Logan-Mingo Readiness Center
- Parkersburg Readiness Center
- Williamstown Elementary School
- Building 5, 6, & 7 Improvements
- Beech Fork Lodge
- West Virginia State Police Information Services Center
- Edgewood Elementary School
- West Virginia State Lottery Headquarters Renovation
- Brooks Manor Addition and Renovation
- WVRTP Building 740 Improvements

ZMM has a history of working to successfully deliver projects with challenging budget and schedule constraints. We commit to working with you to meet the budget and schedule for the HVAC upgrades and replacement project for the WV Public Service Commission facilities in downtown Charleston.

ZMM
ARCHITECTS
ENGINEERS

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CLIENT REFERENCES

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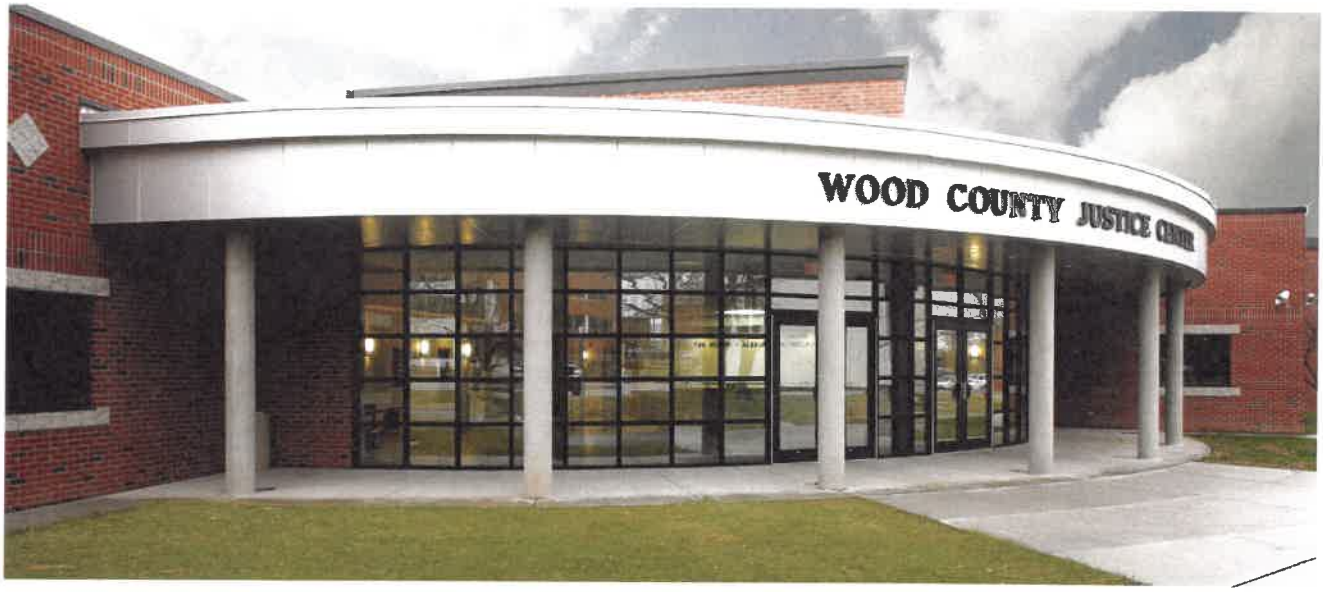

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Thank You

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