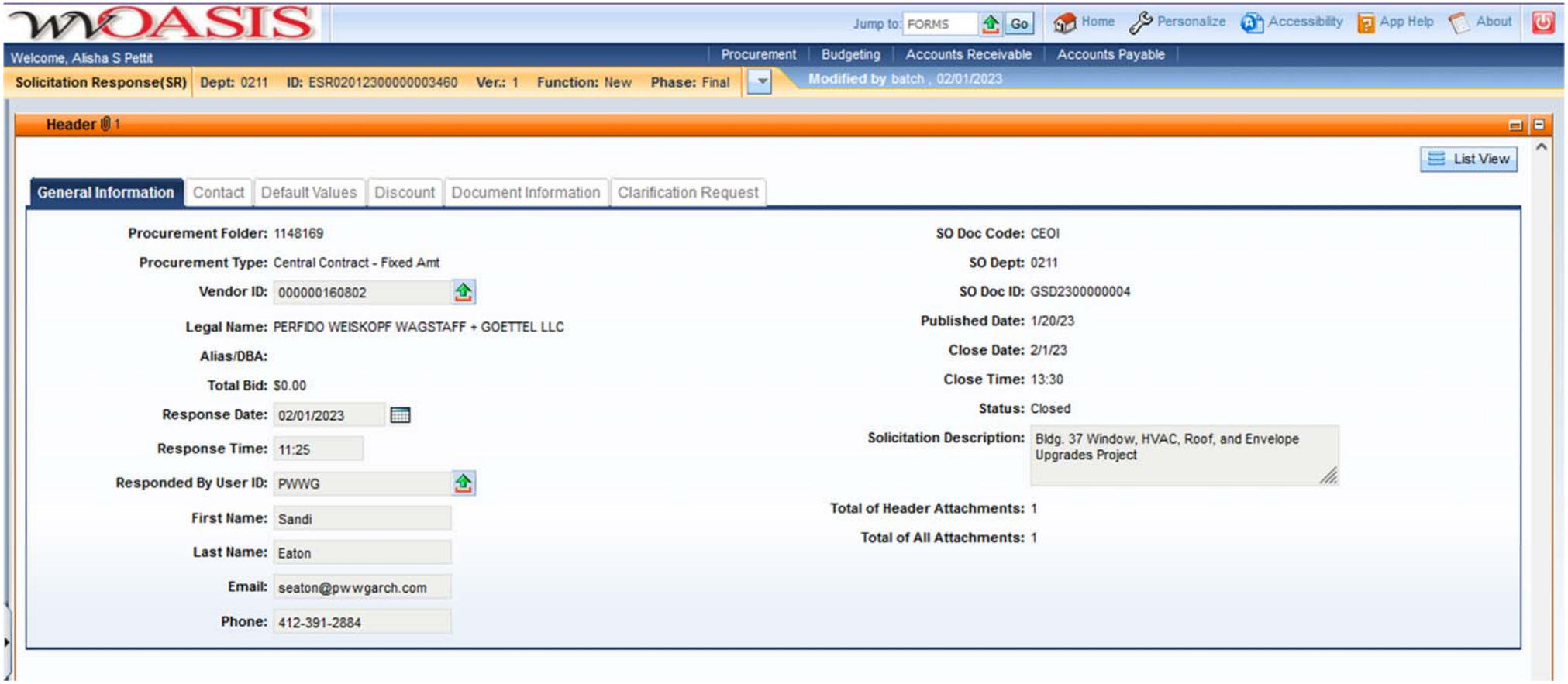
The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency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


wvOASIS
Jump to: FORMS
Go
Home
Personalize
Accessibility
App Help
About
Welcome, Alisha S Pettit
Procurement
Budgeting
Accounts Receivable
Accounts Payable
Solicitation Response(SR)
Dept: 0211
ID: ESR02012300000003460
Ver.: 1
Function: New
Phase: Final
Modified by batch , 02/01/2023
Header 1
List View
General Information
Contact
Default Values
Discount
Document Information
Clarification Request
Procurement Folder: 1148169
Procurement Type: Central Contract - Fixed Amt
Vendor ID: 000000160802
Legal Name: PERFIDO WEISKOPF WAGSTAFF + GOETTEL LLC
Alias/DBA:
Total Bid: $0.00
Response Date: 02/01/2023
Response Time: 11:25
Responded By User ID: PWWG
First Name: Sandi
Last Name: Eaton
Email: seaton@pwwgarch.com
Phone: 412-391-2884
SO Doc Code: CEOI
SO Dept: 0211
SO Doc ID: GSD2300000004
Published Date: 1/20/23
Close Date: 2/1/23
Close Time: 13:30
Status: Closed
Solicitation Description: Bldg. 37 Window, HVAC, Roof, and Envelope Upgrades Project
Total of Header Attachments: 1
Total of All Attachments: 1

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

State of West Virginia
Solicitation Response

Proc Folder:	1148169
Solicitation Description:	Bldg. 37 Window, HVAC, Roof, and Envelope Upgrades Project
Proc Type:	Central Contract - Fixed Amt

Solicitation Closes	Solicitation Response	Version
2023-02-01 13:30	SR 0211 ESR02012300000003460	1

VENDOR

000000160802
PERFIDO WEISKOPF WAGSTAFF + GOETTEL LLC

Solicitation Number: CEOI 0211 GSD2300000004

Total Bid: 0 **Response Date:** 2023-02-01 **Response Time:** 11:25:53

Comments:

FOR INFORMATION CONTACT THE BUYER
Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

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

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Bldg. 37 Window, HVAC, Roof, and Envelope Upgrades Project				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments:

Extended Description:

Bldg. 37 Window, HVAC, Roof, and Envelope Upgrades Project




PROPOSAL FOR PROFESSIONAL A/E DESIGN SERVICES FOR

CEOI GSD2300000004
BUILDING 37 UPGRADES

Prepared for the
STATE OF WEST VIRGINIA GENERAL SERVICES DIVISION

FEBRUARY 1, 2023

pwwg point of contact

Anthony L. Pitassi, AIA, NCARB, LEED AP
Managing Principal
412.391.2884 ext 225
apitassi@pwwgarch.com

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI GSD2300000004

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)

☑ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ 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.

PWWG Architects
Company

Authorized Signature

1/20/2023
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Margaret Morrison, Carnegie Mellon University

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cover + letter

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

PERFIDO
WEISKOPF
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GOETTEL

February 1, 2023

Melissa Pettrey, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305

RE: CEOI GSD 2300000004 Building 37 Upgrades

Dear Ms. Pettrey and Members of the Selection Committee,

PWWG Architects is pleased to submit our qualifications for professional Architectural and Engineering design services in response to EOI: Building 37 Upgrades and the goals described. We have carefully studied the RFP and we visited the building on January 26, 2023, to get a first-hand view of the scope and magnitude of the project. We are confident that the enclosed materials demonstrate that our team is well qualified to provide the best overall value to the State of West Virginia.

We are excited about the opportunity to continue working with your institution alongside our work at the Capitol Complex campus. We also want to underscore the specific qualifications of our team and the unique aspects that PWWG will bring to this project:

- Our firm has a seasoned staff, with a higher than the customary percentage being licensed architects.
- Our proposed internal team for this project - Joseph Filar, Project Manager; Nathaniel Rice, Project Architect; and Jan Irvin, Specifications / QA QC - have developed a knowledge and understanding of the Capitol Complex Campus given their extensive experience with WV Building 3 and WV Building 4.
- PWWG has worked on 20+ successful projects in the State of West Virginia over the last three decades.
- As a firm that provides architecture and planning only, we compose teams of consultants that are skilled in complex upgrades to existing buildings.
- We have experience preparing comprehensive facility assessments and building consensus among constituent groups.
- We have experience designing for continued occupancy during construction and have recently completed projects at universities where this was successfully achieved.

We appreciate your consideration of our credentials and look forward to the opportunity to discuss your project in detail.

Sincerely,

Anthony L. Pitassi, AIA, NCARB, LEED AP
Managing Principal

ANTHONY PITASSI, AIA LISA CARVER, AIA BRENT HOUCK, AIA
408 BOULEVARD OF THE ALLIES PITTSBURGH, PA 15219-1301 412.391.2884 PH 412.391.1657 FX WWW.PWWGARCH.COM

pwwg +
team

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

PWWG ARCHITECTS

stewards of the community +

NAME OF FIRM: Perfido Weiskopf Wagstaff + Goettel, LLC (PWWG Architects)

TYPE OF BUSINESS OWNERSHIP: LLC

CERTIFIED SMALL BUSINESS ENTITY IN: PA

HISTORY AND DESCRIPTION OF THE FIRM

Since 1975, PWWG has served clients in the Ohio River Valley and beyond from our main office in downtown Pittsburgh.

PWWG is a diverse, versatile architectural practice, with experience in a wide variety of building types. Our portfolio includes projects, large and small, for cultural institutions, higher education, government, businesses, and individuals.

PWWG HAS 3 PRINCIPALS:

Anthony L. Pitassi, AIA, NCARB, LEED AP; Lisa Carver, AIA, NCARB, LEED AP;
Brent Houck, AIA, NCARB, LEED AP.

AREAS OF SPECIALIZATION

- Rehabilitation, preservation, and adaptive reuse of historic architecture and existing buildings.
- Commercial and civic architecture including parking structures, retail, theatres, hotels, and galleries.
- Facilities for education (labs, classrooms, offices, administrative, and workforce training buildings).
- Multi-family residential design (affordable and market rate, student and senior housing, and luxury condominiums).

MAIN OFFICE

PWWG Pittsburgh
408 Boulevard of the Allies, Pittsburgh, PA 15219

BRANCH OFFICE

PWWG Cincinnati
1432 Elm Street Unit 1A, Cincinnati, OH 45202

SCAN TO VISIT OUR WEBSITE

1975
Year Established

23
Total # of Employees

3
Principals

13
Registered Architects

7
LEED Accredited Professionals

2
WELL Accredited Professionals

3
Administrative & Support

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

work in west virginia +

- Hardway Hall Systems Upgrades, Fairmont State University
- Turley Center Renovation, Fairmont State University
- Campbell Hall Renovation, West Liberty University
- Shaw Hall Renovation, West Liberty University
- Main Hall, West Liberty University
- Science Building Study, West Liberty University
- West Virginia State Capitol Totunda
- West Virginia Building 3 Renovation
- West Virginia Building 4 Renovation
- Elevator Upgrades and Modernizations, WV Capitol Complex
- Downtown Loop Campus Expansion, West Virginia University
- Oglebay and Ming Hsieh Halls, West Virginia University
- Brooke Tower, West Virginia University
- Utilities and Infrastructure Improvements & Quad Design, West Virginia University Evansdale
- Old Main, West Virginia University Institute of Technology
- Applied Technology Center, West Virginia University at Parkersburg
- Child Development Center, West Virginia University at Parkersburg
- STEM Building Study, WVU Potomac State College
- National Center for Youth Science Education Masterplan
- Wheeling Heights II Housing, Wheeling
- Morgantown Event Center, Morgantown
- Holiday Inn Hotel & Suites, Beckley

FIRM OVERVIEW

ZDS Design/Consulting Services is a three-generation family owned MEP/Commissioning Engineering Firm located near Charleston, West Virginia. ZDS provides comprehensive professional services for Master Planning/Feasibility Studies, HVAC, Plumbing, Electrical, Indoor Environmental Quality, Energy Engineering, Forensic Engineering and Commissioning. ZDS has extensive proven high performance building design experience for commercial, governmental, educational facilities, and healthcare experience in 25 states across the country, the State of West Virginia, local government and Federal agencies. Specializing in renovation projects with ***proven results of from 30% to over 50% reduction in energy/operating costs*** earning Energy Star Certification and EPAct qualified on government renovation projects!

- Mechanical
- Electrical
- Plumbing
- Forensic
- Energy
- Commissioning
- Indoor Environmental Quality (IAQ/IEQ)
- High Performance Sustainable Buildings

The ZDS team is made up of **seasoned professionals** who have dedicated their careers to engineering design excellence and quality. We pride ourselves in having the most up to date state of the art technology to provide our clients the very best possible services. We offer **comprehensive** practical solutions to our clients with proven World Class results.

COMPANY LEGAL NAME

ZDS Limited Liability Company
dba ZDS Design/Consulting Services

OFFICE LOCATION

135 Corporate Center Drive, Suite 532
Scott Depot, WV 25560

FOUNDERS

Todd A. Zachwieja, P.E., C.E.O.

Lori L. Zachwieja, C.P.A., C.F.O.

Daniel H. Kim, Ph.D.

ASHRAE Insights

The Newspaper of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Three Generations of Service to ASHRAE

By Pat Cross

As the First World War raged in Europe, Polish immigrant Wadesty Zachwieja drove his pick into a coal vein in southern West Virginia. Back bent and lungs tarnished with the hardships of coal mining, he could not have conceived that three generations of engineers would rise from those black, dusty depths to navigate peak achievements in their industry.

Ted T. Zachwieja, Sr. founded the Mountaineer Chapter of ASHRAE, while his son, Ted A. Zachwieja, Jr., designed the first and largest commercial geothermal system in the West Virginia region.

Reaching from the shoulders of his father, Ted A. Zachwieja III graduated from the Rochester Institute of Technology and joined his father and grandfather in the family engineering business.

Their story catches the ears and hearts of anyone who acknowledges the challenges and unique achievements of a family business arising from the ashes of poverty and hazardous hardship of coal mining labor.

All three "Teds" are currently part of ZDS Design/Consulting Services, in its 17th year of operation. The company is located in Saint Albans, W.V. ZDS provides a variety of engineering services including HVAC, plumbing, fire protection, electrical power, lighting, fire alarm and technology system design.

ASHRAE has played a key part in the three men's success, especially when they work on projects requiring the integration of several engineering specialties, such as energy-efficient design, IAQ, HVAC systems and commissioning.

Ted T. Zachwieja, Principal-in-Charge Of Construction Administration

Ted T. Zachwieja, Sr. made his mark on the engineering industry in West Virginia not only by founding the ASHRAE Mountaineer Chapter, but in an extensive project involving the design and construction of the West Virginia Capitol Complex. He also engineered many of the buildings at the West Virginia Capitol Complex, which involved more than 640,000 square feet of new facilities; those systems continue working today.

"An ASHRAE Life Member [who joined in 1966], I founded the Mountaineer Chapter of ASHRAE and served as president for many of its early years.

"I was born in the southern coal fields of West Virginia and am the only living son out of a family of seven (two brothers who died before the age of 10 and four sisters). My father was a first generation immigrant from Poland who went to

The Zachwieja family (from left to right), Ted (Todd) A., Ted A. III, and Ted T. — all are engineers and members of ASHRAE.

"Family Owned & Operated Engineering Firm providing Professional Design Services for over 29+ years"

FIRM PROFILE

FIRM STRUCTURE: Corporation

YEARS IN BUSINESS: 15

PRINCIPAL: Douglas Richardson, PE, LEED AP

FIRM PHILOSOPHY:
Moment Engineers, Inc. is a professional consulting firm specializing in structural engineering, serving the architectural and building construction communities throughout West Virginia.

During his 30 years of experience, Mr. Richardson has had sole responsibility for the structural engineering design of more than 7 million square feet of built space, with construction costs in excess of a half billion dollars. His experience, ranging from small to very large multi-phase projects, is invaluable in providing the technical expertise and creative flexibility to deliver results in a prompt and reliable manner.

BUILDING SECTORS SERVED: WV higher education, WV state government, medical facilities, and commercial office buildings

FIRM CAPABILITIES: Design, forensics, and structural analysis for steel, concrete, masonry, and wood structures, for a variety of building types; construction administration services.

MOMENT
engineers, inc.
Structural Engineering
for the Built Environment
304.414.4000

SELECTED WV PROJECTS:

- WV Building Four (with PWWG)
- WVU Parkersburg Child Development Center (with PWWG)
- WVU Parkersburg Applied Technology Center (with PWWG)
- WVU Tech Engineering Lab Building Foundation Assessment
- Marshall University Stadium Concourse Expansion
- Kappa Alpha Fraternity House, WVU
- West Liberty University Campbell Hall Health Sciences Bldg (with PWWG)
- Mountaineer Challenge Academy
- Robert C. Byrd Regional Training Institute
- Advantage Valley Advance Technology Center
- WV State University Ferrell Hall Structural Assessment/ Repair
- WV State University Jones Hall Structural Assessment/ Repair
- Alderson Federal Prison Dormitory
- Judge Donald F. Black Courthouse Annex
- Pratt & Whitney Test Cell
- WV Hospital Association Office Building
- Camp Dawson - Regional Training Institute
- Glen Jean - AFRC
- Camp Dawson - AFRC
- Greenbrier Resort Golf Clubhouse Renovation

PINNACLE ENVIRONMENTAL

Pinnacle Environmental Consultants, Inc. has been providing multi-disciplined environmental consulting services to a myriad of clients in the private and public sectors since 1994.

Our commitment to success is centered on building quality relationships, conducting our business honestly and setting the highest standards of professional integrity. Our mission is to be recognized as a leader within our fields of discipline by consistently exceeding our client's expectations in the areas of technical excellence, service and cost effectiveness.

The issues that our clients face are dynamic. Each is driven by regulations that are seemingly in a constant state of change. Through our strong working relationships with regulatory agencies and technical associations, we are able to keep abreast of new technologies and provide new perspectives on protecting our clients' best interests and minimizing their liability.

Pinnacle's seasoned management team consists of environmental professionals who offer a wide range of unique capabilities and experience. The full range of Pinnacle's environmental services are:

- >>> **Environmental Audits and Assessments**
- >>> **Contaminant Identification**
- >>> **Asbestos Management Support Services**
- >>> **Analytical Capabilities**
- >>> **Indoor Air Quality and Microbial Growth**
- >>> **Industrial Hygiene Services**
- >>> **Lead Based Paint Management**
- >>> **Safety and Training Services**

MISSION STATEMENT

Our mission is to be a leader in the environmental, health, and safety fields by building quality relationships, conducting business honestly, and consistently exceeding our clients expectations in the area of technical excellence, service, and cost effectiveness, while continuing to establish the highest standard of professional integrity.

MORGAN

PROPERTY & CONSTRUCTION CONSULTANTS

RELIABLE COST ESTIMATES FROM THE EARLIEST STAGES OF DESIGN

The development and control of a realistic budget is essential to project feasibility, and cost projections need to be reliable from the earliest stages of design. Morgan Property and Construction is a professional independent construction cost estimating firm that works with architects and engineers as part of their team, active in each phase of design. Estimates are prepared in CSI Divisional format from the schematic phase forward with updates at each major submission. The firm does not rely on ‘comparables’ or ‘square foot’ costs, because projects are nearly always unique in multiple ways, and comparables are never truly comparable.

By making active use of the valuable information generated from the cost estimating process, Morgan is constantly “value engineering” projects as they go through the design phases. At the close of the design phases the firm can selectively use “add” and “deduct” bid alternates to give the owner flexibility and a range bid numbers to pick from to mitigate the uncertainties of the bidding process. The combination of these strategies greatly reduces the likelihood of going through a painful process of cost cutting (as opposed to intelligent value engineering), redesign and rebidding.

KEY COMPETENCIES

- Cost Estimating
- Inspection
- Value Engineering
- Facility Assessments
- Administration/Management

DIFFERENTIATORS

- 40+ years of professional construction management and administrative skills.
- Provides realistic, practical and valuable tools to clients which empower them with knowledge and in-depth understanding to execute their desired construction goals.
- Specific expertise in cost estimating to clearly communicate with clients about cost savings, feasible alternative solutions, and avoiding costly delays and unforeseen expenses.
- Commercial/institutional/multi-family construction experience.
- Services are beneficial to both architects and owners in understanding their costs and supporting their projects throughout construction.

organizational chart +

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

pwwg project leadership team

Anthony L. Pitassi,
AIA, NCARB, LEED AP
Managing Principal
Role: Principal-in-Charge

Joseph Filar,
RA, LEED AP
Senior Associate
Role: Project Manager

Nathaniel Rice,
RA, NCARB
Associate
Role: Project Architect

Jan Irvin,
AIA, LEED AP
Senior Associate
Role: Specs / QA QC

design consultants

MEP
ZDS

Todd Zachwieja, PE, CEM, LEED AP
CEO, Principal, MEP PM

Ted Zachwieja III, PE, CEM
CTO, Principal, MEP PM

Jim Watters
Production/Construction Admin Manager

Paul O'Dell, PE
Project Engineer

Mark Estep, PE
Project Engineer

David Cotton, PE, LEED AP BD+C
Project Engineer

Vineel Busa, PE
Project Engineer

STRUCTURAL
Moment Engineers

Douglas R. Richardson,
PE, LEED AP
Principal Engineer

COST ESTIMATING
Morgan PCC

Morgan Kronk
Principal Cost Estimator

ENVIRONMENTAL
Pinnacle Environmental

Christopher A. Belcher
President

Michael D. Strine,
Vice President

Stephen L. Brenner
Project Manager

anthony pitassi +

aia, ncarb, leed ap

MANAGING PRINCIPAL

Tony has been with PWWG for 20+ years, and is a leader in the firm's practices in hospitality, adaptive reuse and renewal, and historic preservation for commercial, cultural, and non-profit clients. Tony leads every project—from concept studies to new construction--by aligning practical solutions, sound project management, and exemplary design and detailing, with the values of stakeholders and clients. He is recognized for clear communication and uncommon skill facilitating creative dialogue between clients, consultants, architectural partners, and contractors, throughout design and construction. Tony has managed many projects to successful completion with LEED, Universal and Inclusive Design, WELL, and 2030 standards of sustainability, and contributed to establishing the groundbreaking isUD standard for museums. His projects as Principal-in-Charge have won awards from local and national chapters of the AIA and major design entities, and been featured in regional and international publications covering architecture, interiors, and hotel design.

JOINED PWWG
1998

EDUCATION
Bachelor of Architecture,
Kent State University, 1989

BA Architectural Studies,
University of Pittsburgh, 1986

REGISTRATION
Architect in PA, OH,
WV, KY & MO

PROFESSIONAL ASSOCIATIONS
American Institute of Architects (AIA) Member

LEED Accredited Professional

Green Building Council Institute

NCARB Certificate Holder

RELEVANT PROJECT EXPERIENCE

Allegheny County Courthouse Facilities Plan Phase I and II (Roof & Tower Restoration) Implementation,, Pittsburgh, PA—Plans and concepts for 15 projects through 2030 to rehab and modernize architect H.H. Richardson's masterpiece. PWWG was selected to implement first projects in the Facilities Plan—restoring major components of the exterior. Scope included: repointing granite roof of main tower and both courtyards; replace all clay roof tile with new clay tile; and replacing low slope roofs above ambulatories in the courtyard. *Principal-In-Charge*

Church of the Ascension Envelope Assessment and Restoration, Pittsburgh, PA— forensic evaluation of sandstone envelope of an iconic National Register church in an urban neighborhood; study helped secure foundation funding for PWWG to also coordinate phased cleaning, stabilizing, and repointing sanctuary, parish hall, and bell tower. *Principal-In-Charge*

Penn's Common Court, Reading, PA—Exterior envelope redesign and re-skinning for senior housing mid-rise apartment building; earned low income funding. 43,400 sf. *Project Manager*

21c Museum Hotel St. Louis, St. Louis, MO—Rehab and transformation of the 10-story historic YMCA building in downtown for an innovative hybrid art museum and 170-room boutique hotel with galleries, a signature restaurant, and event spaces; earned Historic Tax Credit funding. 163,500 sf. *Principal-In-Charge / Project Manager*

Old Economy Village, Multiple Historic Renovation Projects, Ambridge, PA—A wide variety of improvements and preservation for site features and 20 structures at a national historic site; envelope, accessibility and finish upgrades, and new public amenities. *Principal-In-Charge*

Henry W. Oliver Building Facade Rehabilitation and Embassy Suites Hotel Conversion, Pittsburgh, PA—Forensic analysis and rehab of stone exterior for the historic 25-story building, and adaptive reuse of 9 stories for an upscale hotel. 198,000 sf. *Project Manager*

21c Museum Hotel Cincinnati, Cincinnati, OH—Rehab and transformation of a historic downtown hotel for an innovative hybrid art museum and 156-room boutique hotel with galleries, a signature restaurant, meeting and event spaces; earned Historic Tax Credit funding. 159,000 sf. *Project Manager*

21c Museum Hotel Lexington, Lexington, KY—Rehab and transformation of a 15-story historic bank and department store in downtown for an innovative hybrid art museum and 88-room boutique hotel with galleries, a signature restaurant, and event spaces; earned Historic Tax Credit funding. 103,500 sf. *Project Manager*

joseph filar +

ra, leed ap

SENIOR ASSOCIATE

JOINED PWWG
1999

EDUCATION
Bachelor of Architecture, Pennsylvania State University, 1995

Sede di Roma Foreign Studies Program, 1993

REGISTRATION
Architect in PA

PROFESSIONAL ASSOCIATIONS
LEED Accredited Professional

National Historic Trust
Pittsburgh History & Landmarks Foundation

Joe began his professional career working in New York City. He moved back to Pittsburgh in 1999, joined Perfido Weiskopf Architects as an intern architect, and became an associate of the firm in July 2003. Joe has a broad range of design and contract management experience and experience as a Project Manager on higher education, market rate and subsidized housing, corporate offices, and historic rehabilitation of landmarks buildings. Several of his projects have received awards from the Pittsburgh and Pennsylvania chapters of the AIA.

RELEVANT PROJECT EXPERIENCE

West Virginia State Capitol Office Building Four Renovation, Charleston, WV—third project on the capitol campus renovates site, exterior, and interior of a 1950s office building; updates to layout, systems and finishes address life safety and accessibility, and preserve mid-century architectural character. 96,000 sf. *Project Manager*

WV State Capitol Complex Building 3 Restoration and Reuse, Charleston, WV—Comprehensive masonry envelope and tile roof restoration and interior redesign of a historic building for contemporary office space, with flexible layouts, updated systems and AV/IT, new amenities and FF&E. 165,000 sf. *Project Manager*

Allegheny County Courthouse Facilities Plan Phase I and II (Roof & Tower Restoration) Implementation,, Pittsburgh, PA—Plans and concepts for 15 projects through 2030 to rehab and modernize architect H.H. Richardson's masterpiece. PWWG was selected to implement first projects in the Facilities Plan—restoring major components of the exterior. Scope included: repointing granite roof of main tower and both courtyards; replace all clay roof tile with new clay tile; and replacing low slope roofs above ambulatories in the courtyard. *Project Manager*

Oglebay Hall Rehab & Transformation and Ming Hsieh Hall Addition, West Virginia University, Morgantown, WV—Salvage and transformation of a vacant historic classroom building for labs, classrooms and offices, and addition with tech intensive lecture halls; the ensemble supports interdisciplinary STEM learning; Oglebay masonry envelope and roof rehab, new pedestrian bridge, outdoor terrace, and rooftop parking at Ming Hsieh; both buildings are LEED Certified. Oglebay Hall Reuse– 50,000 sf; Ming Hsieh Hall Addition – 16,000 sf. *Project Architect*

Church of the Ascension Envelope Assessment and Restoration, Pittsburgh, PA— forensic evaluation of sandstone envelope of an iconic National Register church in an urban neighborhood; study helped secure foundation funding for PWWG to also coordinate phased cleaning, stabilizing, and repointing sanctuary, parish hall, and bell tower. *Project Manager*

Pennsylvania State Capitol Peristyle Envelope Restoration, Harrisburg, PA—Investigation, analysis, and design for waterproofing the deck surrounding the 52M ton granite peristyle and dome of the 1906 state capitol building on the National Register; pilot project confirmed proposed design improvements; building remained fully operational. *Project Manager*

Becht Hall Reuse for Student Success Center, Clarion University, Clarion, PA — Historic dorm reimagined as a "modern" historic building, consolidating services for15 departments; flexible office, conference and classroom spaces for future needs; envelope restoration; PASSHE open-end project. 53,000 sf. *Project Architect*

Old Economy Village, Multiple Historic Renovation Projects, Ambridge, PA—A wide variety of improvements and preservation for site features and 20 structures at a national historic site; envelope, accessibility and finish upgrades, and new public amenities. *Project Manager*

nathaniel rice +

ra, ncarb

ASSOCIATE

Since joining PWWG in 2018, Nathaniel has managed and worked with teams on studies, new designs, and renewal/re-use of existing buildings in the firm's key markets—residential, higher education, and commercial/mixed-use. Prior experience includes six years of residential, commercial and campus design in Pittsburgh and Baltimore. With a refined sense of composition and advanced skills in digital photography and editing, Nathaniel has documented many of PWWG's projects in Pittsburgh, for marketing and the firm's website.

RELEVANT PROJECT EXPERIENCE

West Virginia Capitol Complex Building Four Renovation, Charleston, WV—third project on the capitol campus renovates site, exterior, and interior of a 1950s office building; updates to layout, systems and finishes address life safety and accessibility, and preserve mid-century architectural character. 96,000 sf. *Project Architect*

Commonwealth Building Apartments, Pittsburgh, PA—Exterior and interior rehabilitation and transformation of a deteriorating 1906 bank building in downtown Pittsburgh for 140 market rate apartments and street level commercial; earned historic tax credit funding. 144,090 sf. *Project Architect*

Buhl Library Modernization, Grove City College, Grove City, PA—Interior transformation of 3-story 1950's library for collaborative study, active learning, and spaces for socializing; vestibule addition and repairs to masonry envelope. 20,000 sf. *Project Manager*

Ace Hotel Renovation, Pittsburgh, PA—A $25 million historic preservation project renovated the former East Liberty YMCA, built in 1909. The renovation included a complete restoration of the building's exterior and a creative reuse of the 60,000 square foot interior as an Ace Hotel featuring 63 guest rooms, lobby, restaurant/bar, coffee shop and event spaces in the gymnasium and ballroom areas; with Moss Architects. *Project Designer*

JOINED PWWG
2018

EDUCATION
Bachelor of Architecture with distinction, Pennsylvania State University, 2012

The Pantheon Institute (Rome, Italy), study abroad focused in urban design & Italian language, 2010

REGISTRATION
Architect in PA

PROFESSIONAL ASSOCIATIONS
NCARB Certification

jan irvin +

aia, leed ap

SENIOR ASSOCIATE

Jan has 30+ years of experience as a successful planner, designer, and senior project manager for education and multi-family housing, renovations, and adaptive reuse. He has focused throughout his career on exploring the connections between design, constructability, and durability. Jan combines these interests, and his ongoing study of sustainable design and preservation, and emerging building technologies, to writing specifications for PWWG's multi-million dollar projects for academic, commercial, and non-profit clients. Jan enriches PWWG firm culture with workshops for staff and local architects on construction, and he develops and implements many of the firm's quality control initiatives.

RELEVANT PROJECT EXPERIENCE

West Virginia Capitol Complex Building Four Renovation, Charleston, WV—third project on the capitol campus renovates site, exterior, and interior of a 1950s office building; updates to layout, systems and finishes address life safety and accessibility, and preserve mid-century architectural character. 96,000 sf. *Specifications / Project Support*

WV State Capitol Complex Building 3 Restoration and Reuse, Charleston, WV—Comprehensive masonry envelope and tile roof restoration and interior redesign of a historic building for contemporary office space, with flexible layouts, updated systems and AV/IT, new amenities and FF&E. 165,000 sf. *Specifications / Project Support*

Cincinnati Music Hall Exterior and Interior Revitalization, Cincinnati, OH—PWWG helped secure $25M in catalyst funding then led restoration and modernization of one of the world's most architecturally acclaimed historic multi-function venues; project reconfigured performance space, added amenities, and created two floors of flexible office space and six event spaces; use of Lean Construction delivered highest design, schedule and building performance outcomes. 307,600 sf. *Project Manager / Architect*

Becht Hall Reuse for Student Success Center, Clarion University, Clarion, PA —historic dorm reimagined as a "modern" historic building, consolidating services for 15 departments; flexible office, conference and classroom spaces for future needs; envelope restoration; PASSHE open-end project. 53,000 sf. *Specifications / Project Support*

21c Museum Hotel St. Louis, St. Louis, MO—Rehab and transformation of the 10-story historic YMCA building in downtown for an innovative hybrid art museum and 170-room boutique hotel with galleries, a signature restaurant, and event spaces; earned Historic Tax Credit funding. 163,500 sf. *Specifications / Project Support*

Buhl Library Feasibility Study and Modernization, Grove City College, Grove City, PA—Interior transformation of 3-story 1950's library for collaborative study, active learning, and spaces for socializing; vestibule addition and repairs to masonry envelope. 20,000 sf. *Specifications / Project Support*

Union Trust Building Transformation, Pittsburgh, PA—Comprehensive interior rehab and transformation of a historic 11-story shopping arcade in downtown for new Class-A office space, co-working space, ground floor commercial, and new underground parking; LEED Certifications—BD+C, Core and Shell-v3, O+M, Existing Buildings-v2. 517,000 sf. *Specifications / Project Support*

JOINED PWWG
2003

EDUCATION
Masters of Arts, Pittsburgh Theological Seminary, 1996

Bachelor of Architecture, Kent State University, 1980

REGISTRATION
Architect in PA

PROFESSIONAL ASSOCIATIONS
American Institute of Architects (AIA) Member

LEED Accredited Professional

Todd Zachwieja, PE, CEM, LEED AP

ZDS Design/Consulting Services

Todd has over 40 years of experience involving the analysis, design, construction management and specifications for mechanical engineering, heating, ventilating, air conditioning, plumbing, fire protection, electrical and lighting, as well as indoor environmental quality analysis, building system commissioning and forensic engineering for educational, governmental, military, commercial, industrial and health care clients. He is also recognized as a campus master planner for utility infrastructure providing master planning at many Universities, hospitals and the State of WV Capitol Complex.

Prior to starting a consulting engineering firm, Todd Zachwieja coordinated comprehensive energy conservation programs resulting in annual energy savings of millions of dollars. He has managed a profitable regional office for one of the country's largest energy companies that service the southeastern United States. Todd also developed computer modeling programs for building energy analysis and monitoring. He has been invited as an industry leader to present technical papers and speak at professional conferences both regionally and nationally.

Todd selected and designed the pilot project for one of the largest geothermal heat pump applications in the Eastern US including designing custom geothermal rooftop AHU's. He has retro-commissioned HVAC systems for millions of square-feet for facilities located in 10 states. He has been involved with many commercial structures including high-rise commercial building renovations. Todd designed renovations to many existing schools which received ***Energy Star Certifications*** placing them in the nation's top 25% of energy efficiency schools. *The College Planning and Management Magazine* featured Todd and his work with a major University for the performance contracting programs that save millions of dollars in energy and operating costs. Most projects also qualified for EPAct which requires buildings use over 50% less energy than buildings designed using ASHRAE 90.1.

GOVERNMENT/HISTORIC/COMMERCIAL PROJECT EXPERIENCE

- Bank One
- Bayer Material Science
- Calvert County Aquatic Center, MD
- Charleston Area Medical Center
- Cass Scenic Railroad Clubhouse, WVDNR
- Coal Heritage Discovery Center
- Culture Center, HVAC & Fire Protection, WV State Capitol Complex
- General Motors Corp. Re-commissioning
- Hopemont Hospital, WVDHHR
- Jackie Withrow Hospital, WVDHHR
- Jackson County Courthouse Annex
- Kanawha County Commission: 120,000 sf Judicial Annex additions/renovations
- Kanawha County Courthouse
- Kanawha County Metro 911
- Kanawha County Public Library
- Kanawha County Schools
- Kohl's
- Laidley Towers
- Marshall University
- Mercer County Courthouse Annex
- Olin Corporation
- Phillip Morris USA
- Public Service Commission of WV
- Redmond House, WVDOT
- Rhone-Poulenc
- Robinson Grand Performing Arts Theatre
- Santa Anna Federal Building, CA
- St. Patrick's Church
- Tyler County Courthouse
- Tyler County Schools
- Toyota Motor Manufacturer, WV Inc.
- Union Carbide/DOW
- United Center
- University of Charleston Innovation Ctr
- William R. Sharpe, Jr. Hospital, WVDHHR
- Word Trade Center, MD
- WV Air National Guard including Cx $45M Fuel Cell/ Maintenance Hangars at Yeager Airport – ***LEED Silver Certified***
- WV Army National Guard
- WV Capitol Complex Central Heating Plant
- WV Children's Home, WVDHHR
- WV Department of Transportation/DOH
- WV Division of Protective Services
- WV Higher Education Authority
- WV General Services Division
- WV State Capitol Complex renovations
- WVU Stewart Hall & Wise Library
- Yeager Airport

PROFESSIONAL REGISTRATIONS

Professional Engineer:

Florida [redacted]
Georgia [redacted]
Kentucky [redacted]
Maryland [redacted]
North Carolina [redacted]
Ohio [redacted]
Pennsylvania [redacted]
South Carolina [redacted]
Virginia [redacted]
West Virginia [redacted]

Fire Investigation Certification under the direction of Peter Vallas, Sr.

CEM® Certified Energy Manager (C.E.M.) National Certification No. [redacted]

LEED AP LEED Accredited Professional, National Certification through USGBC No. [redacted]

EDUCATION

Masters of Science in Engineering Management from West Virginia University College of Graduate Studies.

Bachelor of Science in Mechanical Engineering from West Virginia Institute of Technology.

Todd Zachwieja, PE, CEM, LEED AP

PROFESSIONAL AND COMMUNITY AFFILIATIONS

Past President 2013-14, current Governor - WV ASHRAE Chapter, Served as ASHRAE's Energy and Technical Affairs Chairman for six years. Recognized by ASHRAE Region VII in 2014 with the David Levine Award of Excellence, Presidential Award of Excellence,

Recognized by the International Who's Who of Professionals

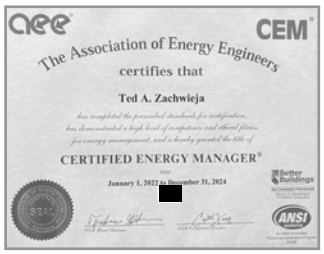
Recognized nationally as West Virginia's Business Man of the Year

Recognized by AEE nationally in 2007 as a Legend in Energy

Recognized by AEE nationally in 2008 as a Charter Legend in Energy

Charter Life Member of the Association of Energy Engineers

Professional Affiliate Member of the American Institute of Architecture



Associate Member West Virginia Society for Healthcare Engineering

Member of the International Code Council

Member of the National Society of Professional Engineers

OTHER RECOGNITIONS

Selected by WVU and the WV Division of Energy to train Code officials and the design community on ASHRAE 90.1 State Energy Code

Presented at regional and national conferences including the annual National System Commissioning Conference

Contributing editor and served on the Editorial Review Panel for "*The Handbook of Building Management and Indoor Air Quality*"

Contributing editor "*Ventilation for a Quality Dining Experience*"

Contributing editor and served on the Editorial Review Panel for *INvironment Professional, Power Prescriptions* and other publications and articles featuring Indoor Air Quality (IAQ) and MEP engineering systems

Energy Star Certified for facilities in the nation's top 25% of energy efficiency

1st Place 2014 ASHRAE Technology Award, Region VII

LEED Silver Certified WVANG Fuel Cell/Maintenance Hangar, Charleston, WV

LEED Gold Certified Harvard Arboretum, Boston, MA

First ASHRAE bEQ certified building in West Virginia, 2015

Ted Zachwieja III, PE, CEM

ZDS Design/Consulting Services

Ted has over 19 years of experience in building construction design industry. His strategic thinking and development of technical resources at ZDS has helped streamline design processes and improve quality of work office wide. Ted is an innovative problem solver in engineering design, communication methods and management of BIM models between stakeholders during a design project. As a pioneer and a believer in technological processes Ted has championed Integrated Design Practices that has become the fabric of ZDS's day to day operations.

Ted developed ZDS's 3D Scanning services which have assisted in collecting key existing conditions for renovation projects, forensic engineering, historical preservation, and high definition reality capture. Ted has in depth experience on collection, registration, and scan to BIM processes. He has provided training and developed materials for best practices when using 3D scan data. Ted's 3D scanning experience includes governmental, educational, health care, industrial, and commercial facilities. He also has experience in speaking on how 3D laser scanning impacts our industry today.

Ted develops, designs and manages the IT systems. The experience encompasses development and deployment of central server systems to networked client computer systems, strategic development for ZDS' Integrated Design Processes, and research and development into new technologies to continue staying on the cutting edge for ZDS and others.

Ted's project experience includes design and commissioning for heating, ventilating, air conditioning, plumbing, fire protection, electrical and lighting systems for educational, health care, industrial and commercial facilities. His experience encompasses working both on new construction and renovation projects. He also is experienced in historical facilities including theatrical.

Ted maintains an active membership to the ASHRAE professional society and also has a lifetime membership to the Association of Energy Engineers. He maintains an active continuing education towards today's standards and codes as well as participates in ASHRAE at both a local and society level. He was recently appointed to the Electronic Communications Standing Committee with ASHRAE. Ted has designed renovations to existing K-12 schools which received ***Energy Star Certifications*** placing them in the nation's top 25% of energy efficiency schools.

GOVERNMENT/HISTORIC/COMMERCIAL PROJECT EXPERIENCE

- WV Air National Guard Maintenance Hangar and Fuel Cell Hangar, Charleston, WV – ***LEED Silver Certified***
- Adams Morgan Historic Hotel, DC
- Bayer Material Science
- Catholic Church of Ascension, Parish Hall Renovations
- Coal Heritage Discovery Center
- Culture Center, WV State Capitol Complex
- Highland Museum, KY
- Hopemont Hospital, WVDHHR
- Jackie Withrow Hospital, WVDHHR
- Kanawha County Judicial Annex HVAC Renovations
- Laidley Towers
- Meadowbrook Rest Areas
- I-70 Welcome Center
- CASCI Building, Charleston WV
- Morgantown Welcome Center
- Pocahontas County Community Center
- Redmond House, WVDOT
- Robinson Grand Performing Arts Theatre
- Servia Rest Areas
- St. Patrick's Church, Weston WV
- Stonewall Jackson Marina
- Tyler County Courthouse
- University of Charleston Innovation Center Additions/Renovations
- William R. Sharpe, Jr. Hospital Additions/ Renovations, WVDHHR
- World Trade Center, Renovations, MD
- WV Children's Home, WVDHHR
- WV Parkways Authority, Toll Booth Plazas
- WV State Capital Complex Central Heating Plant
- WVU Wise Library
- White Sulfur Springs Rest Area
- Numerous K-12 School Renovations
- Kanawha Co. Judicial Bldg. Commissioning
- WV State Capitol Complex Bldgs. 3 & 4 Commissioning

PROFESSIONAL REGISTRATIONS

Professional Engineer:

Florida [redacted]

West Virginia [redacted]

Certified Energy Manager (C.E.M.)

National Certificate No. [redacted]

CEM®

EDUCATION

Bachelor of Science in Mechanical Engineering from Rochester Institute of Technology, Rochester, NY

AWARDS AND RECOGNITIONS

Awarded 2012 Legend in Energy by the Association of Energy Engineers

Awarded acceptance into ASHRAE's 2015 Leadership University

ASHRAE Blue Ribbon Award of Excellence

Co-Author at Autodesk University

ENERGY STAR

Energy Star Certified for facilities in the Nation's top 25% of energy efficiency

Jim Watters

ZDS Design/Consulting Services

Jim has over 40 years' experience in design and implementation of lighting, HVAC, plumbing and electrical systems including nine years in the construction industry. He has a comprehensive knowledge of construction documents, contracts, and development of cost estimates, budgets and schedules. Jim's strengths reside in his ability to manage projects and people in an organized and cost-effective manner. Jim has been involved with the design and production of mechanical and electrical drawings including HVAC, plumbing, fire protection, lighting, electrical power, fire alarm and specialized systems. He has worked with and managed engineers in projects for health care, educational and commercial buildings in the states of West Virginia, Florida, Maryland, Pennsylvania, Ohio, Kentucky, Virginia, Georgia, New York, Arizona, Illinois and Massachusetts.

Jim has extensive experience in energy savings' programs for lighting, HVAC, plumbing and electrical systems in hospitals, state and government office buildings, school systems, and manufacturing facilities, as well as managing performance contracts for a large facility's campus totaling $10,000,000 in construction costs on various projects, including the conception, design and construction administration for the installation of a 1.5 Megawatt emergency generator. The propane-fired generator and associated switchgear in conjunction with 60,000 gallons of propane fuel storage served to provide peak shaving/load shedding to save on the campus utility costs as well as emergency power functions. Through the years, Jim has researched and implemented into practice International Building Codes, NFPA Codes, National Electrical Codes, Life Safety Codes, IES standards, AIA Guidelines for Design and Construction, and ADA guidelines. His involvement in construction through the years has been mainly from the design side of the industry with a 9 year stint working for a contracting firm at the turn of this century. His experience includes coordinating with Architects, Owners and Agencies including an excellent relationship with the office of State Fire Marshal.

GOVERNMENT/HISTORIC/COMMERCIAL PROJECT EXPERIENCE

- Bluefield Area Transit Authority Administration and Maintenance Facility
- Kentucky Judicial Center, Boyd County
- Coal Heritage Highway Authority
- Chase Towers (formally Charleston National Bank)
- Culture Center Fire Alarm/Sprinklers, WV State Capitol Complex
- Department of Transportation Rest Area prototype
- Department of Transportation Welcome Center prototype
- Fenway Park Lightning Protection/ Grounding Study, Boston
- Glenville State College
- Hopemont Hospital, WVDHHR
- I-70 Welcome Center
- Jackie Withrow Hospital, WVDHHR
- Jackson County Libraries Renovations
- Kanawha County Commission Judicial Annex Renovations
- Laidley Towers
- Meadowbrook Rest Areas
- Morgantown Welcome Center
- Redmond House, WVDOT
- Rhone-Poulenc New Admin. offices
- Robinson Grand Performing Arts Theatre
- Sacred Heart Pavilion and Daycare Ctr
- St. Patrick's Church
- Shawnee Park Clubhouse
- Stonewall Jackson Marina Renovations
- Tucker County Board Office Boiler Retrofit
- Tucker County Courthouse
- Tyler County Courthouse
- University of Charleston Innovation Ctr
- William R. Sharpe, Jr. Hospital, WVDHHR
- World Trade Center, MD
- WV Air National Guard including Cx $45M Fuel Cell/ Maintenance Hangars at Yeager Airport – ***LEED Silver Certified***
- WV Children's Home, WVDHHR
- WV Department of Military Affairs, Public Safety Maintenance Facility, Eleanor
- WV Department of Transportation Burnsville Rest Area and Domestic Water Pumping Station—***AIA Merit Award Recipient***
- WV State Capitol Complex Renovations to Buildings 1, 3, 4, 5 & 7
- White Sulphur Springs Welcome Center

PROFESSIONAL AFFILIATIONS

Member of the National Fire Protection Association (NFPA)

Member of the Health Care Section of the NFPA

Past Member of the Illuminating Engineering Society (IES)

Past member of the American Society of Plumbing Engineers (ASPE)

Past member of the Institute of Electrical Engineers (IEE)

OTHER RECOGNITIONS

Energy Star Certified for facilities in the Nation's top 25% of energy efficiency

ENERGY STAR

Paul O'Dell, PE

ZDS Design/Consulting Services

Paul has 30 years of engineering experience involving the analysis, design, project management, specifications' writing and construction management on many projects throughout the region. This experience includes heating, ventilation, air conditioning (HVAC), plumbing, electrical systems and lighting for governmental, commercial, educational, healthcare, industrial and military facilities. He also has knowledge and experience with indoor environmental quality assessment, recommended remedial work and design of the necessary modifications in various types of buildings.

Paul assisted in the design and implementation of the pilot project for one of the largest geothermal heat pump systems in the mid-Atlantic region. He has also been involved in the design of facilities that have received the Energy Star Certification placing them in the nation's top 25% in energy savings for similar buildings and systems as well as his contribution as part of a large team effort performing mechanical systems' retro-commissioning at numerous automotive manufacturing facilities in North America.

His project experience is wide-ranging and includes the development of scope, design criteria and budget conscious designs. Working with other design professionals and through rapport with the clients he has conducted design peer reviews, construction budget and project schedule overview, Construction Administration and closeout of projects.

GOVERNMENT/HISTORIC/COMMERCIAL PROJECT EXPERIENCE

- WVARNG Armory/Annex
- Bruceton Bank
- Bank One
- Culture Center, WV State Capitol Complex
- Cuissets Residence
- Camp Dawson barrack/mess hall
- DOT Huntington District II Headquarters Renovations
- Yeager Airport Terminal Expansion/ Renovation
- DOH Testing Lab
- GMC Lordstown Assembly Plant
- GMC Janesville Assembly Plant
- GMC Pontiac East Assembly Plant
- GMC Bowling green Assembly Plant
- GMC Arlington Assembly Plant
- Harrison County Bank
- IMC Office Bldg.
- Kanawha County Commission, Judicial Annex
- WV Capitol Complex Central Boiler Plant
- Appalachian Tire
- Laidley Towers
- Robinson Grand Performing Arts Theatre
- USDA Forestry Building
- University of Charleston Innovation Center Additions/Renovations
- World Trade Center, MD
- William R. Sharpe, Jr. Hospital Additions/Renovations, WVDHHR
- Numerous K-12 School Renovations

PROFESSIONAL REGISTRATIONS

Professional Engineer:
West Virginia [redacted]

EDUCATION

Bachelor of Science in Mechanical Engineering from WV Institute of Technology, Montgomery, WV (Graduated Cum Laude)

PROFESSIONAL AFFILIATIONS

Member American Society of Mechanical Engineers

Member ASHRAE

Mark Estep, PE

ZDS Design/Consulting Services

Mark has over 18 years of experience and is responsible for the design of commercial, institutional, and industrial mechanical and electric projects. He works with architects, civil and structural engineers to coordinate design and construction documents. He is responsible for project specifications and submittal review. Mark holds Degrees in Engineering and Architectural Technology which provide more than engineered solutions. He designs solutions that incorporate essential and functional needs, as well as aesthetic, life-safety, and constructability considerations.

Before joining ZDS, Mark was the President and Principal Engineer of another firm where he provided mechanical and electrical engineering design and analysis for commercial construction projects and was responsible for acquiring new projects.

He analyzes systems to determine best value solutions. He evaluates contractor equipment and material submittals as well as conduct on-site review of construction progress and quality.

PERSONAL COMMERCIAL/GOVERNMENTAL PROJECT EXPERIENCE

- General Motors Dealerships; Lewisburg, Charleston & Beckley.
- Toyota Manufacturing Facility; multi-purpose addition containing office spaces, medical treatment area, and weight room.
- Berkeley County EMS; New Facility.
- Buzz Food Processing Facility; New 12,000 sf processing facility includes offices, refrigeration, and abattoir spaces.
- Princeton War Memorial; HVAC Renovations.
- Brickstreet Insurance Headquarters; 86,100 sf renovation.
- Beckley PSD; 3 Water Storage Tanks; Sweeneysburg Water Treatment Plant.
- Shops at Kanawha Plaza; extensive renovation and tenant fit-up project of 195,000 sf shopping center.
- Huntington Museum of Art; HVAC Renovations.
- New Automobile Showrooms; two new showrooms with office and/or repair facilities.
- First Bank of Charleston; New Building.
- Hargis Laundry Facilities; laundry facility renovations.
- Harley Davidson; Store Renovations.
- Shawnee Sports Complex; Six multi-purpose fields and four baseball field complex with amenities.
- Charleston Housing Authority; Lee Terrace Boiler; Jarrett Terrace HVAC; Lee Terrace HVAC; Carroll Terrace Boiler; Little Page Boiler; Washington Manor Boiler; Switzer Center.
- Clay County PSD; Water Storage Tank; Water Treatment Plant.
- Putnam County Courthouse Complex; HVAC Replacement at the Sherriff's Office Building and the Main Courthouse Building.
- Trans Canada; New Control Building.
- Willow I & II and Elk Village Senior Centers; Three new two-story senior apartment buildings in multiple locations.
- Raleigh County Airport; Runway Lighting Upgrade.
- Yeager Airport; Runway & Tarmac Repairs.
- Upshur County Commission; Upshur County Courthouse Addition.
- Huntington Housing Authority; New 50 Unit Apartment Building; Administration Building Renovations.
- Maranatha Fellowship Church; New Annex Building.
- Mount Olive Correctional Facility; Foundation Verification.
- State of West Virginia Bioterrorism Lab; Upgraded existing mechanical and electrical systems to Bioterrorism facility to current federal standards.
- WV Department of Transportation; Kelly Creek Bridge; Marmet Bridge.
- WV Water Development Authority; New Facility.
-
- Dunbar Housing Authority; Dutch Hollow HVAC Replacement.
- WV Hygienic Lab; HVAC & Electrical Upgrades.
- WV Division of Motor Vehicles; Kanawha City.

PROFESSIONAL REGISTRATIONS

Professional Engineer:

West Virginia [redacted]
Maryland [redacted]
Virginia [redacted]
Kentucky [redacted]
Ohio [redacted]

EDUCATION

Bachelor of Science
Mechanical Engineering
WV Institute of Technology

Bachelor of Science
Architectural Engineering Technology
Associates of Science
Mechanical Engineering Technology
Fairmont State College

ENERGY STAR

David Cotton, PE, LEED AP BD +C

ZDS Design/Consulting Services

David is a professional Mechanical Engineer with over 16 years of experience in the design and construction of over 500 projects having construction values up to $35 million. His design experience ranges from commercial, industrial, institutional, healthcare, education, restaurant, retail, government, airport, and recreational facilities.

David collaborates well with fellow engineers, architects, owners, commissioning agents, contractors, and vendors to define project scope and develop conceptual designs. As a project manager he successfully manages projects from start to finish in design, bidding, and construction administration.

PERSONAL PROJECT EXPERIENCE

- Dominion Office Building—LEED Gold, Bridgeport, WV
- Mon General Hospital Echo Renovations, Morgantown, WV
- Mon Health LTAC for Acuity, Morgantown, WV
- UHC POB 4th Floor Fitout, Clarksburg, WV
- Clarksburg Comprehensive Care Clinic Renovations, Clarksburg, WV
- Jerry Dove Medical Office Building, Bridgeport, WV
- Medbrook Building HVAC Replacement, Bridgeport, WV
- Mylan Pharmaceuticals, Morgantown, WV
- Total Dental, New Multi-Tenant Building for PCE, LLC, Bridgeport, WV
- Beckley Police Station, Beckley, WV
- Doddridge County Athletic Complex, Doddridge County, WV
- Boy Scouts of America, Rex W. Tillerson Leadership Center, Fayette County, WV
- White Hall Public Safety Building, White Hall, WV
- Beitzel/Pillar Innovations Office Building, Garrett County, MD
- Shady Spring Middle School HVAC Renovations, Shady Spring, WV
- Maxwell Hill Elementary School HVAC Renovations, Beckley, WV
- Percival Hall Absorption Chiller and Cooling Tower Replacement, Morgantown, WV
- Thrasher Engineering Office Building, Bridgeport, WV
- WVU Creative Arts Center Rehearsal Hall, Morgantown, WV
- WVU Towers Dining Hall Renovations, Morgantown, WV
- WVU Athletic Performance Center, Morgantown, WV
- HP Hood Addition/Renovations, Winchester, VA
- Dominion Office Building, Delmont, PA
- University of Pittsburgh Softball Practice Facility, Pittsburgh, PA
- Westmoreland Community and Technical College, Indiana, PA
- WVU Alumni Center, Morgantown, WV
- WVU Biomedical Research Facility, Morgantown, WV
- WVU Milan Puskar Locker Room Renovations, Morgantown, WV
- NOAA GOES-R Supercomputing Center, Fairmont, WV
- Columbia Gas Transmission Compressor Station, Mathias, WV
- Mabscott Elementary School HVAC Renovations, Beckley, WV
- Independence Middle School HVAC/Roof Upgrades, Coal City, WV

PROFESSIONAL REGISTRATIONS

Professional Engineer:

West Virginia [redacted]
Maryland [redacted]
Virginia [redacted]
Ohio [redacted]
Pennsylvania [redacted]

LEED AP BD+C Professional Accreditation

NCEES Record Certificate

EDUCATION

Bachelor of Science
Mechanical Engineering
WV Institute of Technology

MEMBERSHIPS

WV ASHRAE, Current President
National Fire Protection Association
WV Society of Healthcare Engineers

Vineel Busa, PE

ZDS Design/Consulting Services

Vineel is a professional Mechanical Engineer with a Masters Degree in Mechanical Engineering and nearly 6 years experience in HVAC & Refrigeration. Technically sophisticated engineering professional with solid history of effective integration, and deployment of HVAC systems. Significant experience in designing, commissioning and implementing efficient HVAC systems for various commercial, healthcare and educational facilities.

Vineel is knowledgeable on HVAC systems, Heat Transfer, Refrigeration and Thermodynamic specializing in HVAC heating and cooling load calculations, Psychrometric and hydronic analyses and Energy modeling. He has applied that foundation in the MEP industry, manufacturing industry and the commercial industry. Vineel has a comprehensive knowledge of mechanical principles and drafting techniques.

He is experienced hands-on in designing Variable Refrigerant Flow systems, Steam Systems, hydronic systems, Geothermal systems and Building Automation System. He is also proficient in Revit, AutoCAD, IESVE, Navisworks, and Autodesk Recap. Vineel is experienced in utilizing point clouds in the development of Scan to Building Information Modeling (BIM) and performing 3D scanning. Vineel is well-versed in technical specification writings and development of construction drawings. He has hands-on experience in performing Functional Performance Testing in leading Commissioning projects.

PROJECT EXPERIENCE

- New Bluefield Elementary School Commissioning
- Clay County High School Commissioning
- North Fork Elementary School HVAC/Roof Renovations, 3D Scanning, Scan-to-BIM and Commissioning
- Pendleton County Middle/High School HVAC/Roof Renovations, 3D Scanning, Scan-to-BIM and Commissioning
- New 911 Center high performance “Net Zero” facility and Commissioning
- Tyler County Courthouse Additions/Renovations and Commissioning
- Riverside High School HVAC/Lighting Renovations
- Roane General Hospital Commissioning
- Kanawha County Judicial Building Renovations & Commissioning
- New Clendenin Elementary School Commissioning
- Marshall University—Jomie Jazz HVAC Renovations
- Veteran Administration Clarksburg Hospital Mechanical BIM
- Veteran Administration Huntington Hospital Mechanical-Electrical BIM
- WVARNG Brushfork Armory HVAC Renovations
- WV Capitol Complex Campus Heating System Renovations Buildings #1, #3, #4, #5 and #7 over multiple phases
- WV State Capitol Complex Bldgs. 3 & 4 Commissioning
- St. Marys High School
- Raleigh County Schools: 4 Schools - Renovations & Commissioning
- New Stratton Elementary School Commissioning

PROFESSIONAL REGISTRATIONS

Professional Engineer:
West Virginia [redacted]

EDUCATION

VIT University
Bachelor of Science
in Mechanical Engineering

Southern Illinois University Edwardsville
Master of Science
in Mechanical Engineering

University of Cumberlands
Working on PhD in Project Management

AWARDS AND RECOGNITIONS

Certified by ASHRAE in
HVAC Design Essentials & Applications

douglas r. richardson

pe, leed ap

PRINCIPAL ENGINEER

EDUCATION

North Carolina State University, Masters of Science in Civil Engineering, Major in Structures Minor in Construction, 1989

West Virginia University, Bachelor of Science in Civil Engineering, 1987

REGISTRATION

West Virginia, [redacted]

Virginia, [redacted]

Kentucky, [redacted]

Florida, [redacted]

Ohio, [redacted]

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers

American Concrete Institute

American Institute of Architects, Professional Affiliate

Structural Engineering Institute

Engineers Without Borders-USA

RECENT PROJECT EXPERIENCE

West Virginia Building Four

West Liberty University Campbell Hall
Health Sciences Building

WVU Parkersburg Child Development Center

WVU Parkersburg Applied Technology Center

WVU Tech Engineering Lab Building

Marshall University Stadium Team Store

Mountaineer Challenge Academy

Robert C. Byrd Regional Training Institute 1

Advantage Valley Advance Technology Center

WV St. University Ferrell Hall
Structural Assessment/Repair

WV St. University Jones Hall
Structural Assessment/Repair

Alderson Federal Prison Dormitory

Judge Donald F. Black Courthouse Annex

Pratt & Whitney Test Cell

WV Hospital Association Office Building

Camp Dawson - Regional Training Institute

Glen Jean - AFRC

Camp Dawson - AFRC

Greenbrier Resort Golf Clubhouse Renovation

Contractor consultation for Clay Center Renovations

Contractor consultation for Charleston
Civic Center renovations

christopher a. belcher

PRESIDENT

Mr. Belcher's primary responsibility is ensuring that the operations of Pinnacle Environmental Consultants, Inc. are accomplished in a professional and efficient manner. As president of Pinnacle, Mr. Belcher provides guidance and leadership to Pinnacle's technical staff. His input is required when evaluating new technologies, or other significant changes to Pinnacle's current operating methods. Mr. Belcher has thirty-six years of project design and project management experience in the environmental consulting industry.

Other day to day responsibilities include building inspection procedures, asbestos abatement monitoring protocols, preparing job proposals, new account development, strategic planning, client base analysis, sales administration, presenting seminars, and technical editing of reports and related documentation.

Mr. Belcher has been involved with the inspection, design and monitoring for removal of large-scale asbestos abatement projects, mold remediation projects, lead-based paint abatement, PCB remediation and mercury decontamination. Mr. Belcher's expertise is identifying the scope of work, relating the scope of work to bidders and managing the project for large or complex projects.

Mr. Belcher has developed and continually monitors administrative systems which allow for the efficient management and tracking of project related data, from inception of the contract through completion of project reports and billings. In addition, Mr. Belcher often provides innovative and unique input towards solutions to situations pertaining to personnel, market evaluations, and project planning.

EDUCATION

Bachelor of Science,
University of Charleston, 1987

CERTIFICATIONS

Building Inspection Procedures & Management Planner, University of Cincinnati (AHES Certification, Ohio Department of Health)

Contractor/Supervisor, Asbestos Abatement Practices, University of Cincinnati

Asbestos Abatement Project Designer, University of Cincinnati (Project Designer Certification, Ohio Department of Health)

NIOSH 582 Method, Sampling and Evaluating Airborne Asbestos Dust, National Institute for Occupational Safety and Health

RELEVANT PROJECT EXPERIENCE

University of Charleston – Innovation Center renovation project

Comprehensive pre-renovation asbestos inspection, project specifications and contractor bidding, coordination of work between asbestos abatement and general contractor, project oversight and management.

Kanawha County Public Library – Major renovation project

Comprehensive pre-renovation asbestos inspection, project specifications and contractor bidding, coordination of work with KCPL, owner's representative and general contractor, project oversight and management.

PINNACLE

michael d. strine

VICE PRESIDENT

Mr. Strine's Primary responsibility is insuring that Pinnacle Environmental Consultants, Inc. operations are accomplished in a professional and efficient manner. As Vice President of Pinnacle, Mr. Strine provides guidance and leadership to Pinnacle's technical staff for the successful completion of specific project requirements. His input is required when determining personnel assignments based on the requirement of a particular project.

Mr. Strine is responsible for evaluating building inspection procedures and asbestos abatement monitoring protocols, preparing job proposals, new account development, and assisting the President with strategic planning. Responsible for the management of Pinnacle's administrative support personnel.

Mr. Strine has extensive experience managing projects involving asbestos, lead and PCB-related issues a wide variety of industrial, commercial and privately owned facilities for thirty-six years. Projects have included work in schools, public buildings, and high rise structures, both occupied and vacant. Development and implementation asbestos inspections of numerous multi-facility sites, including inspection and sampling strategies designed to provide the most cost effective and efficient evaluation of the sites. Conducted OSHA required training programs for compliance lead and asbestos construction standards.

Mr. Strine has significant experience with presentations of information related to environmental concerns to owners, property managers, and media representatives. Experienced in managing a crisis scenario, which involved presentations of information to large audiences charged with high levels of anxiety regarding the safety and health of their children.

EDUCATION

Associates Degree of Science, Community College of the Air Force, 1986

CERTIFICATIONS

Building Inspection Procedures & Management Planner, University of Cincinnati (AHES Certification, Ohio Department of Health)

Contractor/Supervisor, Asbestos Abatement Practices, University of Cincinnati (AHAS Certification, Ohio Department of Health)

RELEVANT PROJECT EXPERIENCE

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PINNACLE

stephen I. brenner

PROJECT MANAGER

Mr. Brenner has thirty-three years of experience as a Geologist/Field Project Manager with training and experience in Environmental Site Assessments, Hydrogeological Investigations and contamination Exposure Assessments. His field experience includes UST removal and closures, drilling oversight and well installation; soil, groundwater, wastewater and air emissions sampling; and subsurface remediation pilot testing. His project management experience includes Phase I and II Environmental Site Assessments, Contamination Assessments and Corrective Action Plans. Mr. Brenner also has experience in remediation system design and installation; analytical data review, air emission assessments; exposure assessments and compliance permitting issues.

Mr. Brenner has performed Phase I and Phase II pre-acquisition site assessments on industrial facilities, commercial complexes, undeveloped property, fill sites, and residential properties. The Phase I assessments have involved on-site inspections, photo-documentation, aerial photo inspection, Sanborn map reviews, historical data collection, soils surveys, geologic map review and regulatory database searches according to ASTM Standard E–1527. The Phase II assessments have involved the collection of soil, groundwater, sludge, and waste samples.

Mr. Brenner has performed complex asbestos inspections at large industrial, commercial and professional sports stadiums. The industrial sites range from power plants to vacant manufacturing plant buildings and the commercial experience is high-rise towers, former manufacturing buildings being converted to housing and schools. In addition, Mr. Brenner has provided on-site project management during large-scale asbestos abatement projects that involved contractor compliance with the project specifications and regulatory requirements, asbestos and lead exposure assessments and final visual inspections and final clearance air sampling.

EDUCATION

B.S. Geology, The College of William and Mary in Virginia, 1985

CERTIFICATIONS

OSHA HAZWOPER certified

Building Inspection Procedures & Management Planner, University of Cincinnati (AHES Certification, Ohio Department of Health)

Contractor/Supervisor, Asbestos Abatement Practices, The Inservice Training Network (AHAS Certification, Ohio Department of Health)

RELEVANT PROJECT EXPERIENCE

University of Charleston – Innovation Center renovation project

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PINNACLE

morgan kronk

PRINCIPAL COST ESTIMATOR

Morgan Kronk has developed cost estimates for PWWG for 30+ projects totaling more than $50M in construction costs. He has over 35 years of commercial construction experience and has been beneficial to both architects and owners in understanding their costs and supporting their projects throughout construction. As an owner's representative, cost estimator or construction consultant and manager, he brings tangible value to projects.

PROJECT EXPERIENCE WITH PWWG

4700 Fifth Avenue, Carnegie Mellon University, Pittsburgh, PA

Pedestrian Bridge, Western Pennsylvania School for Blind Children, Pittsburgh, PA

Margaret Morrison Renovations, Carnegie Mellon University, Pittsburgh, PA

Margaret Morrison Elevator Addition, Carnegie Mellon University, Pittsburgh, PA

Palumbo Science Center, LaRoche University, Pittsburgh, PA

SEI Space Study, Carnegie Mellon University, Pittsburgh, PA

STEM Study, WVU Potomac State College Keyser, WV

Crawford County Courthouse Planning, Meadville, PA

Old Economy Village Rehabilitation and Upgrades of Historic Buildings, Ambridge, PA

The Garden Room at the National Aviary, Pittsburgh, PA

President's House Study, Carnegie Mellon University, Pittsburgh, PA

Campbell Hall 4th Floor, West Liberty University, West Liberty, WV

Manchester School Window Replacement, Pittsburgh Public Schools, Pittsburgh, PA

Downtown Campus Library Gallery and Atrium Study, West Virgina University, Morgantown, PA

West Virginia Building 4, Charleston, WV

Frame Gallery Bathroom, Carnegie Mellon University, Pittsburgh, PA

William Pitt Union Porch Repairs, University of Pittsburgh, Pittsburgh, PA

National Aviary Masterplan Refinement, Pittsburgh, PA

Warner Hall Study, Carnegie Mellon University, Pittsburgh, PA

21c Museum Hotel Lexington, Lexington, KY

Child Development Center, West Virginia University, Parkersburg, WV

Cambell Hall, West Liberty University - West Liberty, WV

Historic Shaw Hall Study and Renovation, West Liberty University, West Liberty, WV

Glen Hazel High Rise, Housing Authority of Pittsburgh, Pittsburgh, PA

Vermeire Manor Phase II, Sharon, PA

PROFESSIONAL ASSOCIATIONS

Morgan has taught Construction Estimating at community colleges throughout the Pittsburgh region

Rebecca Residence, Board of Directors (Secretary, Executive Committee)

American Institute of Architects (Affiliate Member)

Building Officials & Code Administrators (Affiliate Member)

Pro Bono Estimating and Consulting for the Community Design Center of Pittsburgh

MORGAN
PROPERTY & CONSTRUCTION CONSULTANTS

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WAGSTAFF +
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wv state capitol building #3 renovation : charleston, wv

re-use/renewal of a landmark historic office building

PWWG restored one of the most prominent buildings on the WV Capitol campus– with preservation, historic Building 3 – for use as a modern, well-functioning and welcoming office space. The services needed to successfully implement this project included: code and life safety compliance evaluations, feasibility evaluations, space programming, coordinating complex MEP/FP system upgrades in an integrated process, and developing 3D visualizations of design options.

EXTERIOR WORK RESTORED FROM THE OUTSIDE IN

- Replaced existing Ludowici clay tile roof to match existing, and coordinated QC with the manufacturer; replaced all flat roofs, gutters and flashing.
- Conducted masonry testing to develop the least invasive cleaning methods for all brick, limestone, Virginia Greenstone and granite masonry.
- Repointed failed vertical mortar joints, and replaced all sky-facing mortar joints with sealant and backer rod.
- Refinished all existing bronze window frames and sashes. Existing single pane glass was replaced as necessary.
- Remediated water infiltration issues at balustrade piers and copings
- Refinished existing bronze windows.
- Restored and cleaned limestone, brick, and granite masonry.
- Restored original bronze doors, and integrated increased security.

CLIENT: Dept of General Services, State of West Virginia

SIZE: 165,000 sf

COST: $37.5M

COMPLETION: 2017

FIRM RESPONSIBILITY:
Lead Architect coordinating large consultant team
Programming
Architectural Design
Contract Documents
Contract Administration

REFERENCE:
William Barry, Director
West Virginia General Services Division
304.352.5532
William.D.Barry@wv.gov

Design Award Winner

Mockup of new roof as part of QC

Ludowici tile fabricated to match original signature color; roof restoration in progress

Corner removed to add expansion joint

Parapet existing condition

Parapet during exploratory demolition

Reconstructed parapet mitigates water infiltration

Existing window (l), window restoration mockup (r)

Existing main entry door (l) and historic bronze door restored (r), with state-of-the-art access controls and ADA hardware

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wv state capitol building #4 renovation : charleston, wv

re-use/renewal of a landmark historic office building

This is the third project on the capitol campus, which renovates the site, exterior, and interior of a 1950s office building. It updates the layout, systems and finishes, addresses life safety and accessibility, and preserves the mid-century architectural character.

The goal of this project is to provide flexible, state-of-the-art open office space for multiple agencies and users. Although Building Four is not listed on the National Register of Historic Places, the client wanted to maintain the existing style and historic character of the building in a manner consistent with the National Park Service Historic Preservation Standards.

CLIENT: Dept of General Services, State of West Virginia

SIZE: 7 stories plus basement, 82,000 sf including basement

COST: Confidential

COMPLETION: 2023 (Est.)

FIRM RESPONSIBILITY:
Lead Architect coordinating large consultant team
Existing Conditions Doc
Programming
Architectural Design
Finishes
Contract Documents
Contract Administration

REFERENCE:
Scot Casdorph, PE
Architecture & Engineering Manager
WV General Service Division
Architectural and Engineering
304.957.7145
Scot.R.Casdorph@wv.gov

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WAGSTAFF +
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cincinnati music hall envelope, window, and roof renovation: cincinnati, oh

This National Register landmark in the heart of the historic Over-the-Rhine neighborhood hadn't had a significant upgrade in 50+ years and needed extensive structural, functional, and aesthetic work inside and out to restore the building and upgrade for 21st century use. For exterior scope, PWWG led a team of national consultants with specialties in envelope restoration, structural work in historic buildings, historic window replacement, lighting, and others.

APPLYING THE ART & SCIENCE OF PRESERVATION RESTORED AN ARCHITECTURAL JEWEL

- NPS approved PWWG's strategy to make the "most essential" restorations to the façade. Sensitively discerning this scope allowed the team to stabilize the structure and reinstate architectrual integrity, preserving funds for critical interior work.
- "Essential" exterior scope included: opening windows and archways bricked-in or plastered over; recreating tracery in transom windows beneath the iconic rose window; retrofitting a total of 103 windows—90 of which were custom—to be historically accurate with modern energy performance; selective repair of Music Hall's 4,000,000 bricks; and recreating the intricate pattern of polychrome black brick at the main facade.
- PWWG worked hand-in-glove with the construction team, the Ohio SHPO, and NPS to restore, stabilize, and enhance the building, and earn both federal & state historic tax credits.
- Site improvements include: removing non-historic canopy, replacing the sidewalk, plaza, steps and railing, removing the existing obtrusive ramp system, and creating a new at-grade accessible entrance in the South Hall.
- Revitalizations of this magnitude & complexity typically take 24+ months; design & construction team collaborated to finish in 16 mos., navigating daily surprises with existing conditions.

CLIENT: Cincinnati Center City Development Corporation (3CDC)

SIZE: 307,600 sf

COST: $143M

COMPLETION: October 2017

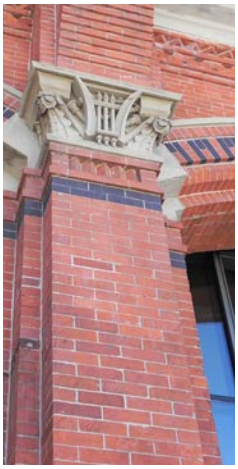
FIRM RESPONSIBILITY:
Programming
Architectural Design
Contract Documents
Contract Administration

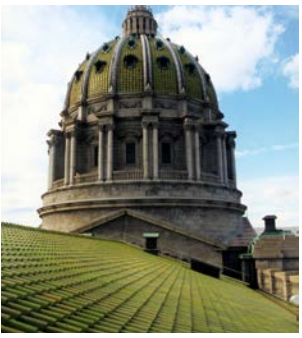
REFERENCE:
Steve Leeper, President & CEO
3CDC
513.621.4400
sleeper@3cdc.org

☆ Design Award Winner

Complex, intricate reroof was part of exterior & interior revitalization. PWWG collaborated with the SHPO, engineering consultants and contractors to develop the roof plan and all details to replace the signature 2-color dimensional asphalt shingle roof, reinforce structural components, and upgrade all life safety elements to meet code. Materials are durable and visually stunning—reroofing won a prestigious QARC Gold Award for capturing the original essence of Music Hall.

Three arched transom windows below the building's iconic rose window were restored. Large-scale architectural drawings were not available; aggressive sleuthing turned up just a single photo from the 1950s showing window details. By digitally enhancing the photo, scanning it, and enlarging it, the team recreated the exact patterns and lacey tracery on all 3 windows, reviving an intricate piece of history. The windows not only look historically accurate, but also live up to modern energy performance standards.





pa capitol exterior restoration : harrisburg, pa

PWWG coordinated rehab of the monumental 1906 Main Capitol Building in Harrisburg, including the roof, domes, cupolas, granite masonry, wood windows, paving and steps. Completed as a joint venture with Graves Architects and Noble Preservation Services.

APPLYING THE ART & SCIENCE OF PRESERVATION RESTORED A MAJESTIC BUILDING

- Project restored the envelope with "best practices" in preservation and SHPO standards while introducing details to withstand the next 50-75 years.
- Restoring curved glazed-tile roofs on domes required inventive design and detailing—tiles were in place with no waterproofing over steel purlins; PWWG detailed custom replacment tile, precisely matching the original, retrofit over a new deck with watertight membrane; curvature was preserved so decorative copper elements fit perfectly when reinstalled.
- Mortar joints at gutters at gabled roofs leaked constantly; PWWG redesigned with durable lead-coated copper drainage basins, and separate drains for each. Gutters were rebuilt at low elevation to prevent water from contacting the granite surfaces, and keep it from backing up under the new gabled roofs.
- Project was constructed in phases over several seasons, synchronized with other interior projects at the Capitol. The building was occupied throughout construction.

CLIENT: Pennsylvania Dept. of General Services

SIZE: N/A

COST: $25M

COMPLETION: 2005

FIRM RESPONSIBILITY:
Preservation Research
Materials Testing/Analysis Design
Contract Documents
Contract Administration

☆ Design Award Winner

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historic oglebay hall envelope, roof, and interior renovation, west virginia university : morgantown, wv

The envelope of Historic Register Oglebay Hall had deteriorated to a point where significant intervention was needed to save the 90-year old structure. As part of the comprehensive renewal and reuse of the 1917 building, PWWG guided the University to consensus on design and programming goals for restoring and repurposing the building by working with Campus Facilities and stakeholders from six departments.

APPLYING THE ART & SCIENCE OF PRESERVATION RESTORED A CAMPUS ICON

- Oglebay Hall was stripped to its masonry shell and wood frame structure, and the interior was repurposed with classrooms, offices, and labs for teaching forensic sciences.
- PWWG designed details for new slate roof with stepped copper flashing, new copper gutters and flashing.
- Brick, limestone, and terra cotta exterior walls were cleaned and completely restored.
- PWWG coordinated a full consultant team from programming through contract administration.
- Entire front entry sequence was redesigned for accessibility.
- WVU's first LEED Certified project.
- Repeat client — this was one of 5 projects PWWG has completed for WVU.

CLIENT: West Virginia University

OGLEBAY HALL SIZE:
50,000 sf renovation

COST: $20M (Combined w/ reno of existing Oglebay Hall)

COMPLETION: 2008

FIRM RESPONSIBILITY:
Programming
Architectural Design
Contract Documents
Contract Administration

REFERENCE:
John Thompson, PE
Associate Director,
Design and Construction
304.293.3625
John.Thompson@mail.wvu.edu

LEED Certified

margaret morrison facade restoration & waterproofing, carnegie mellon university : pittsburgh, pa

restoration to modern standards

Restoration addressed deferred maintenance in Henry Hornbostel's 1913 Beaux Arts masterpiece. one of the most prominent buildings on campus. Cladding is an array of clay and stone masonry, formed concrete, and glazed terra cotta. Water had penetrated sky-facing joints for decades, severely corroding the building's steel frame and opening cracks allowing water into the walls. Problems were compounded and masked by superficial repairs which only dealt with surface flaws.

APPLYING THE ART & SCIENCE OF PRESERVATION RESTORED A CAMPUS TREASURE

- PWWG designed a "restoration to modern standards" with substantial de-construction and remedial repair. Structural steel was cleaned and coated or replaced; a new balustrade was cast using original pieces as molds; and all sky-facing joints were isolated from the cavity wall by a new roof slab extension with cap flashings. The roof drain system was replaced with interior drains to simplify routings and cleanouts. Monumental windows received new sills.
- Project balanced the client's technical requirements for waterproofing & historic preservation of an iconic campus building.
- Restored window frames matched historic profiles; new sashes with double glazing improved energy efficiency.
- PWWG also designed or coordinated solutions for storm water management that addressed persistent flooding in basement classrooms. A Reflection Garden, also created a new amenity on campus.
- PWWG coordinated the work of all engineering and facade consultants.

CLIENT: Carnegie Mellon University

COST: $2.2M

COMPLETION: 2012

FIRM RESPONSIBILITY:
Forensic Investigation
Architectural Design
Contract Documents
Contract Administration

REFERENCE:
Bob Reppe,
Senior Director of
Planning & Design
412.268.5259
breppe@andrew.cmu.edu

Design Award Winner

Forensic field investigations revealed significant deterioration of masonry and steel at the terra cotta frieze, balustrade, and lintels above the windows.

Cleaning and installation of structural steel, various locations

allegheny county courthouse roof & tower restoration : pittsburgh, pa

The Allegheny County Courthouse is one of H.H. Richardson's most prominent buildings. More than a century of heavy use had taken its toll on the National Register landmark in downtown Pittsburgh. In 2014, the County selected PWWG to develop a comprehensive phased plan for preservation and improvements inside and out. PWWG led a team of experts with skills in historic preservation, integrating new systems into historic architecture, sustainable systems and cost estimating. In the course of one year, this team developed a master plan for the building to preserve, restore, and renovate the Allegheny County Courthouse to prepare for another century of use.

APPLYING THE ART & SCIENCE OF PRESERVATION RESTORED AN ARCHITECTURAL JEWEL

- PWWG was selected to implement first projects in the Facilities Plan—restoring major components of the exterior. Scope included: repointing granite roof of main tower and both courtyards; replace all clay roof tile with new clay tile; and replacing low slope roofs above ambulatories in the courtyard.
- New components are historically accurate, matching forms, color, and material of originals.
- Replacements are expected to last a minimum of 75 years.
- PWWG coordinated all work from the design stages through construction administration.

CLIENT: Allegheny County Dept. of Public Works

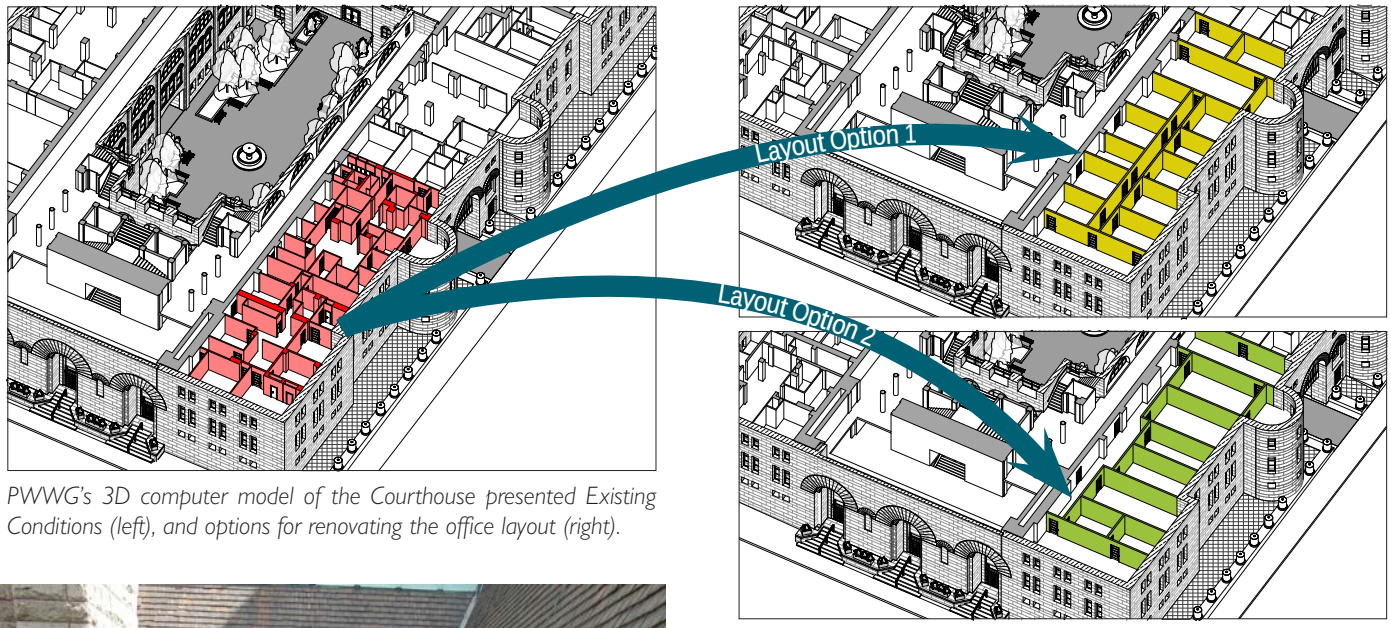
COST: Withheld at Client's Request

COMPLETION OF FIRST PROJECTS IN THE FACILITIES PLAN: 2020

FIRM RESPONSIBILITY:
Forensic Investigation
Architectural Design
Contract Documents
Contract Administration

REFERENCE:
Kevin Halaja,
Deputy Director of Operations
County of Allegheny
412.350.3781
Kevin.Halaja@AlleghenyCounty.us

☆ Design Award Winner

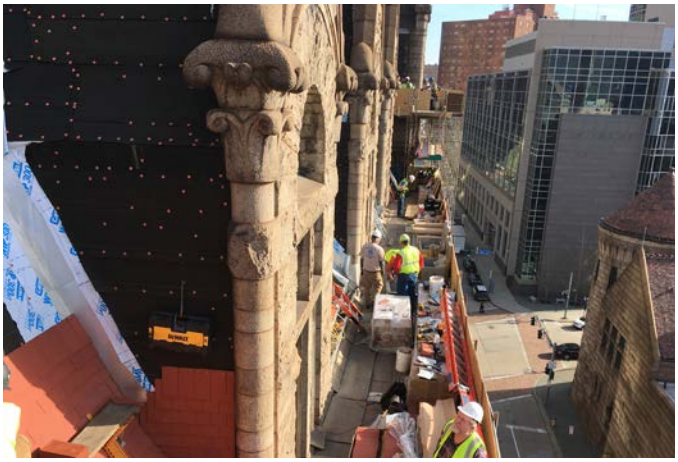


PWWG's 3D computer model of the Courthouse presented Existing Conditions (left), and options for renovating the office layout (right).

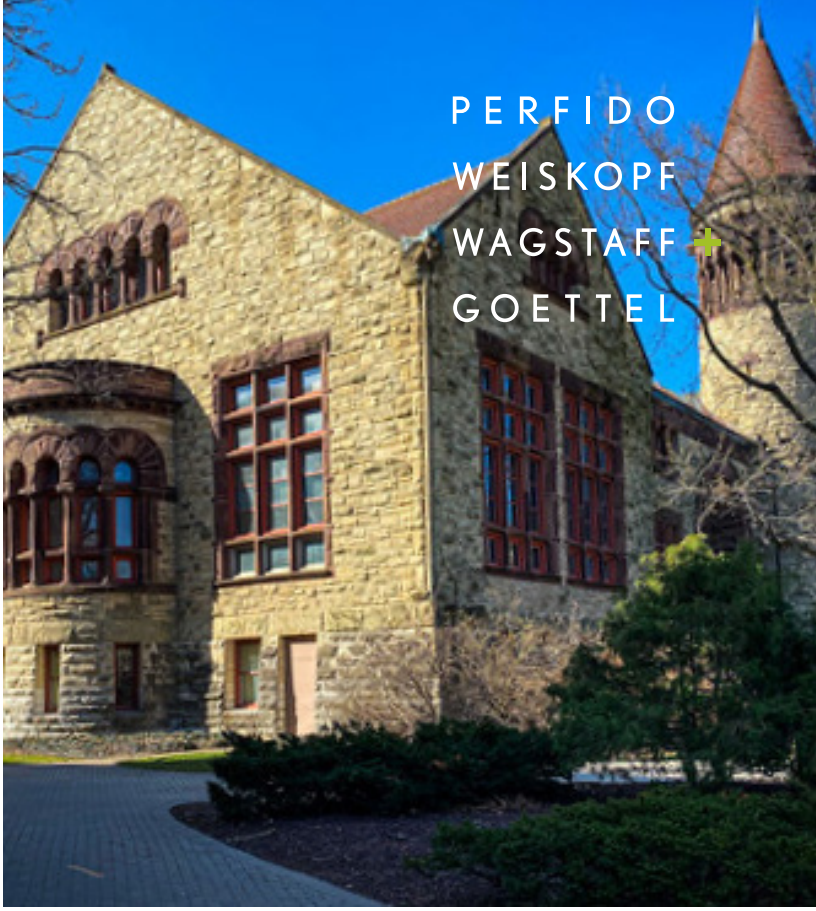
Existing clay tile roof, before restoration

Construction under way, summer 2018—Scaffolding to the eave of the roof line; each week a crane is brought in to unload demo'd materials and load new tile to the top platform.

PWWG coordinated a tour with the County's project team of the Ludowici clay tile factory to observe the manufacturing process for specialty tiles used for the Courthouse re-roofing.



The scaffold platform doubles as a staging area for materials.



orton hall envelope study and concepts for repair, the ohio state university : columbus, oh

Built in 1893, Orton Hall is the second oldest building on OSU's campus. Forty different Ohio-based stone types make up the exterior walls, with oldest at the bottom to youngest at the top. PWWG led a team of national experts to investigate problems with the building's envelope including: roof drainage and needed repairs, foundation stability and waterproofing, and assessment of exterior masonry and mortar.

APPLYING THE ART & SCIENCE OF PRESERVATION RESTORED A CAMPUS TREASURE

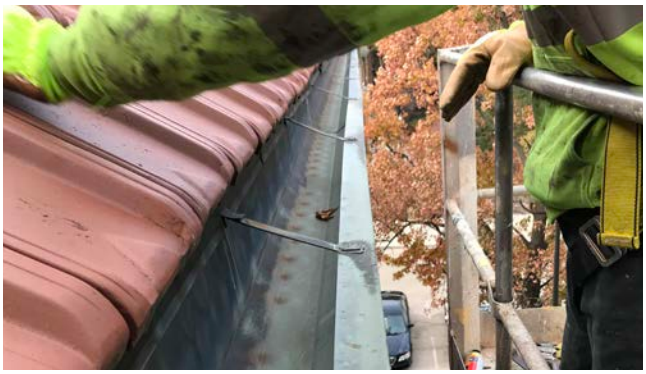
- PWWG's report catalogued issues with the envelope, with recommendations and architectural drawings for typical repairs; detailed cost info informed planning/selection.
- PWWG created an efficient process by managing design and operating as a single point of contact for the consultants.
- PWWG coordinated water infiltration testing and investigations of the roof and gutter systems.
- Working with PWWG gave the client access to specialty consultants not on their pre-qualification list
- PWWG's on-site meetings with the client expedited evaluating options for repair.

CLIENT: The Ohio State University

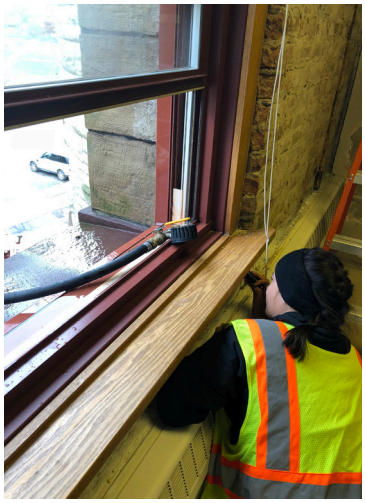
COMPLETION: 2019

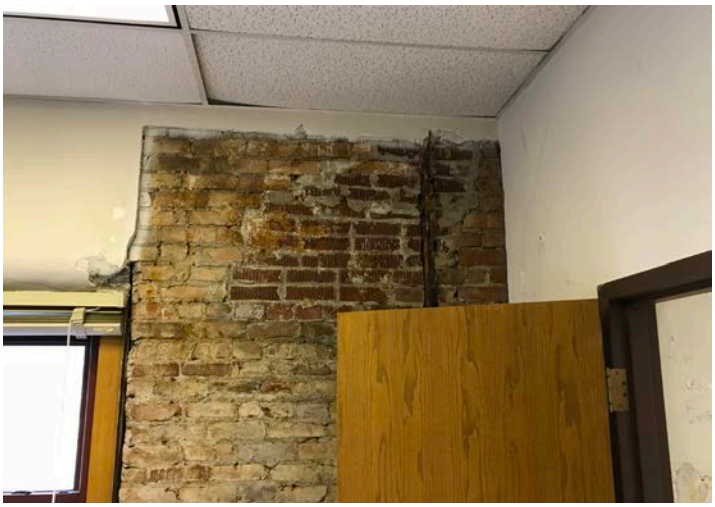
FIRM RESPONSIBILITY:
Preservation Research
Materials Testing/Analysis
Architectural Design

REFERENCE:
Rick Van Deusen,
Project Manager
614.292.0257
van-deusen.2@osu.edu



SGH and PWWG team members removed roof tiles to investigate existing conditions while the building was fully occuped.





SGH performed water testing at second floor windows.

PWWG coordinated SGH's tests for water infiltration at the building's foundation.

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west park court : pittsburgh, pa

West Park Court is a HUD sponsored high-rise apartment for senior citizens on a prominent corner in Pittsburgh's historic North Side. It was originally clad with "EIFS", a fragile stucco material that was expensive to maintain, and prone to cracks, leaks, and mold. PWWG designed a new building envelope that solved serious technical problems and created a handsome new skin for this modernist "tower in the park." The new aluminum Pressure Equalized Rainscreen that "breathes" provided a long-term solution to the failing EIFS. It was installed entirely from the outside., and it improved the efficiency of the building by lowering heating and cooling costs by at least15%. The materials and techniques will provide reliable performance, with very little maintenance, for a minimum of 50 years.

New aluminum and glass railings were also designed, complementing the aesthetic of the new building skin and serving as 'windows' framing views to Lake Elizabeth and the city beyond. At grade, the grounds were reorganized to provide sheltered garden terraces that visually connect to West Park while expanding first floor community space. Construction work was complete in approximately 9 months and West Park Court remained fully occupied throughout the renovation.

CLIENT: West Park Court Housing

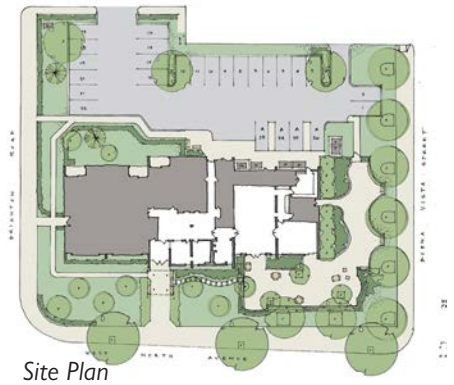
SIZE: N/A

COST: $2.2M

COMPLETION: 2007

FIRM RESPONSIBILITY:
Programming
Architectural Design
Contract Documents
Contract Administration

Design Award Winner



Site Plan

Exterior Before

Kanawha County Courthouse & Judicial Building

Charleston, WV

The Kanawha County Commission hired ZDS to provide HVAC/Roof Replacement engineering planning, design, bidding and construction administration services for the renovation of the 95,400 ft^2 Judicial Building and a 23,000 ft^2 addition using the ground floor of the parking garage connected to the Judicial Building. The facility includes circuit courtrooms, jury deliberation, attorney conferencing, witnessing, court clerical staff, public research, adult probation, prosecuting, maintenance, voter registration, court administration, and all public areas. The addition included a new entrance, security checkpoint, and lobby to accommodate a building expansion for Juvenile Probation and Family Court. Replacing the roof of the original building is being done concurrently with HVAC renovations for a coordinated effort.

ZDS assisted in identifying a phased approach to addressing and defining Indoor Environmental Quality (IEQ) issues and modifications for the Kanawha County Courthouse.

Total Judicial Bldg. Project Costs: $13,807,000
ZDS Team Project Cost: $6,737,000
Annex Project Size: Renovations 95,400 ft^2 plus 23,000 ft^2 addition

"No one else could identify the MEP problems even though many had tried. Yet, ZDS provided an excellent evaluation while working well with our Judges and staff for a very successful project. We use them for all our challenging work."
- Kanawha County Commissioner

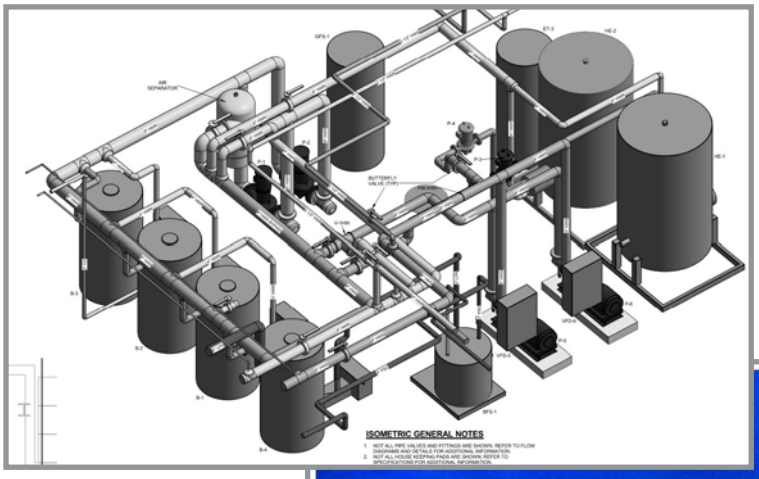
University of Charleston, Charleston, WV
Russell & Martha Wehrle Innovation Center

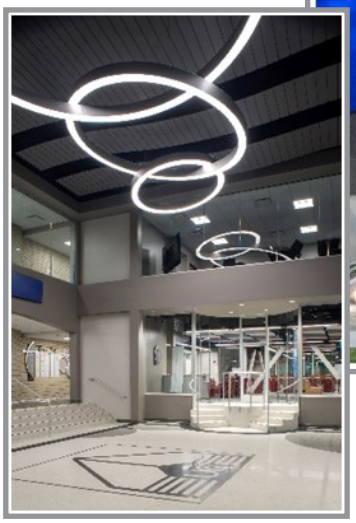
Project Cost: $17,000,000, **Size:** 117,500 ft^2, **Date Complete:** 2017

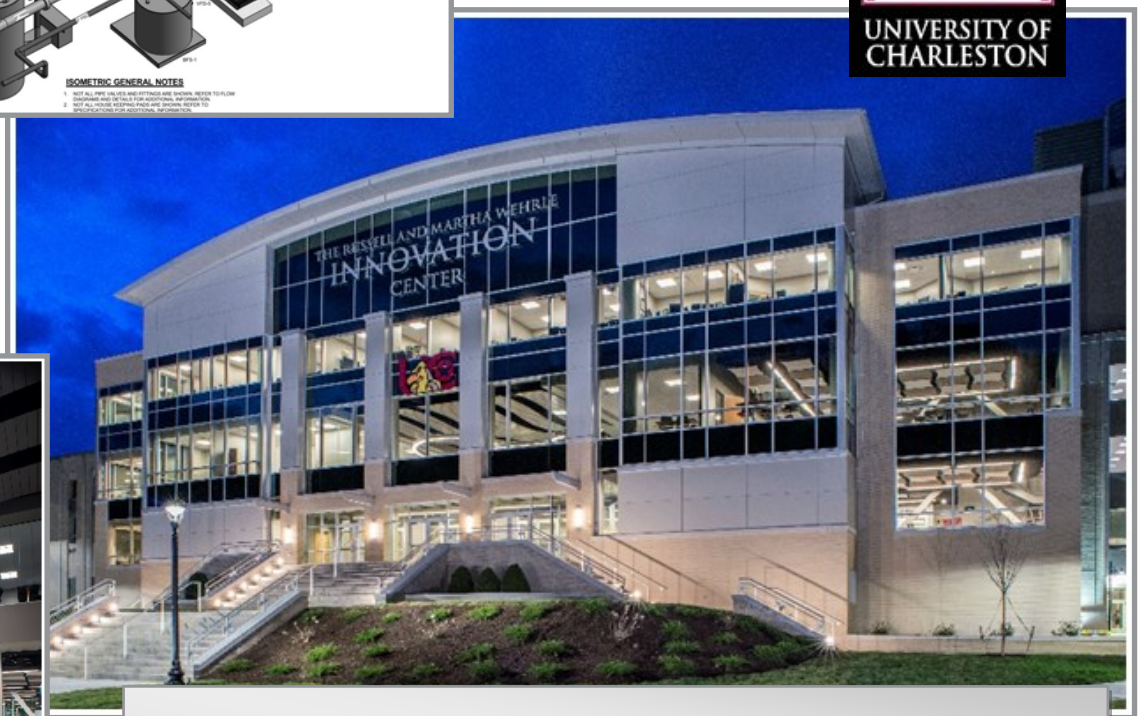
Study/Evaluation, HVAC Renovations, Lighting Upgrades, Fire Protection, Electrical Renovations, 3D Scanning

Client Reference: Gary Boyd, Director of Facilities; (304) 357-4871

The facility consists of classrooms, offices, flexible meeting areas and a large two-story Innovation Center space. Mechanical and Electrical work includes new chiller and three heating hot water boilers with a steam boiler for the central boiler plants with pumps and accessories, HVAC air handling units, DDC Controls, new domestic and fire protection water services, new gas service, domestic water heating equipment, extensive plumbing fixtures/showers/lockers, new electrical service from the campus 12.5 kv distribution loop, switchgear, distribution and branch panel boards, and new state-of-the-art energy efficient LED lighting systems.







Renovations resulted in over a 50% reduction in energy over ASHRAE 90.1-2007 standards.

project approach +

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GOETTEL

Margaret Morrison Building, CMU

enthusiasm and commitment

- We believe in long-term relationships and we are eager to inaugurate creative collaborations.
- We enjoy working with clients who are good stewards of both the built environment and natural resources. We see incredible value in restoring structures and harnessing the embodied energy within them.
- PWWG has extensive experience working with existing buildings, often white remaining occupied during construction.
- PWWG has designed new building envelopes to solve serious technical problems. We have created sophisticated facades to provide long-term solutions. We have devised strategies to improve building efficiency, utilizing materials and techniques that provide reliable performance, with low maintenance.
- Approximately 50% of our portfolio is work on existing buildings, often historic structures on the National Register. We understand “best practices” and how to plan and design for integration of new systems into existing buildings and historic architecture.
- We listen. We are experts in building consensus and distilling goals that may conflict amongst various stakeholder groups.

project approach +

Orton Hall Study, Ohio State University

envelope repair and building forensics

PWWG has and is currently consulting on projects with different types of brick masonry, terra cotta, and stone. We maintain longstanding relationships with masonry preservation specialists who perform selective physical exploration of building envelopes and investigate conditions of the underlying materials, determining actual construction systems and anchorage conditions. Our consultants work in an integrated process with us to develop durable details for restoration measures that often exceed the original service characteristics of the building system. Our evaluations include developing cleaning and repair protocols, and specifications for details such as mortar color and the mix design.

effective project management and quality control

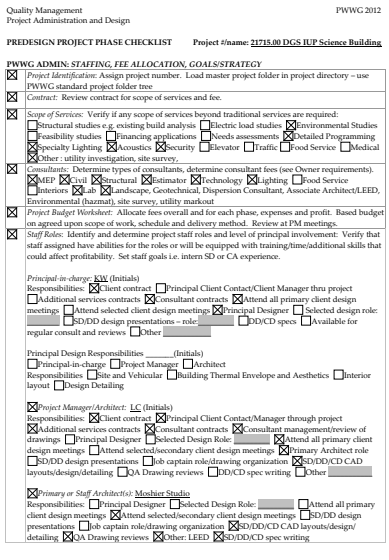
PWWG has a strong record of delivering Construction Documents for complex renovations, additions and alterations that are useful, easy to bid and use for contractors, and reliable in what they deliver to Owners. PWWG can point to deep experience with producing designs and documents for projects that combine new and existing construction.

We design for a 'loose fit' so that when unforeseen conditions are exposed new work can be adjusted to existing work without substantial changes, and normally without additional cost. We perform selective demolition during design to understand the history of a building and probe and uncover actual conditions. Actual conditions often vary significantly from recorded conditions. We interview Maintenance and Facilities personnel to understand their direct experience with buildings, and to probe their memory of past problems.

maintaining quality throughout the project

The key to our approach is checking documents throughout the process and avoiding last-minute changes. We have a quality control plan that lays out the process step-by-step, ensuring that the entire team is coordinated in this mission. QC reviews are conducted at each major phase of the project with the following measures:

- QC begins at concept: Ensure that the design scheme adheres to its program and budget. Early reviews of the design also focus on phasing logic, constructability, code compliance and cost estimates.
- Capability of Core Consultants: Meticulous coordination between an interdisciplinary team is achieved when all members understand and respect each other's work. Our relationship with our consultants enable us to refer to other projects and experiences as precedents in communicating clearly with each other
- QC Coordination: Our QC Coordinator ensures consistency between our drawings and those of our consultants and with code issues.
- Quality Assurance Efforts: Throughout design our internal team works with MasterSpec Drawing Coordination Checklists that tie to the specifications that are written for the project, ensuring the proper information is relayed in the proper place. The team also refers to checklists prepared by the AIA to safeguard that each design phases contains the relevant and proper detail of information.
- Incorporate QC time into the Schedule: As we develop a more detailed work schedule, we incorporate QC review time into each phase, allowing time to review the drawings based on the review.



Quality Management
Project Administration and Design
PWWG 2012

PREDESIGN PROJECT PHASE CHECKLIST **Project #/name: 21715.00 DGS IUP Science Building**

PWWG ADMIN: ***STAFFING, FEE ALLOCATION, GOALS/STRATEGY***

☒ *Project Identification:* Assign project number. Load master project folder in project directory – use PWWG standard project folder tree

☒ *Contract:* Review contract for scope of services and fee.

☒ *Scope of Services:* Verify if any scope of services beyond traditional services are required:
☐Structural studies e.g. existing build analysis ☐Electric load studies ☒Environmental Studies
☐Feasibility studies ☐Financing applications ☐Needs assessments ☒Detailed Programming
☒Specialty Lighting ☒Acoustics ☒Security ☐Elevator ☐Traffic ☐Food Service ☐Medical
☒Other : utility investigation, site survey,

☒ *Consultants:* Determine types of consultants, determine consultant fees (see Owner requirements).
☒MEP ☒Civil ☒Structural ☒Estimator ☒Technology ☒Lighting ☐Food Service
☐Interiors ☒Lab ☒Landscape, Geotechnical, Dispersion Consultant, Associate Architect/LEED, Environmental (hazmat), site survey, utility markout

☒ *Project Budget Worksheet:* Allocate fees overall and for each phase, expenses and profit. Based budget on agreed upon scope of work, schedule and delivery method. Review at PM meetings.

☒ *Staff Roles:* Identify and determine project staff roles and level of principal involvement: Verify that staff assigned have abilities for the roles or will be equipped with training/time/additional skills that could affect profitability. Set staff goals i.e. intern SD or CA experience.

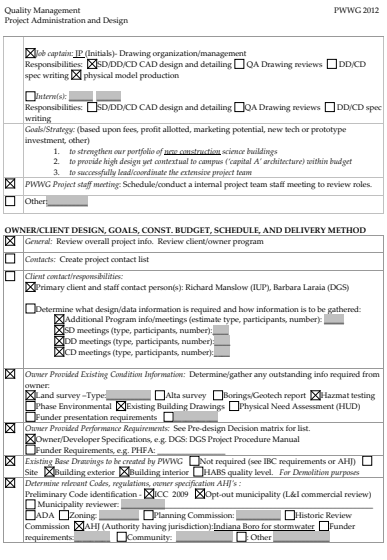
Principal-in-charge: KW (Initials)
Responsibilities: ☒Client contract ☐Principal Client Contact/Client Manager thru project ☐Additional services contracts ☒Consultant contracts ☒Attend all primary client design meetings ☐Attend selected client design meetings ☒Principal Designer ☐Selected design role: _____ ☐SD/DD design presentations – role: _____ ☐DD/CD specs ☐Available for regular consult and reviews ☐Other _____

Principal Design Responsibilities _____(Initials)
☐Principal-in-charge ☐Project Manager ☐Architect
Responsibilities ☐Site and Vehicular ☐Building Thermal Envelope and Aesthetics ☐Interior layout ☐Design Detailing

☒*Project Manager/Architect:* LC (Initials)
Responsibilities: ☒Client contract ☒Principal Client Contact/Manager through project ☒Additional services contracts ☒Consultant contracts ☒Consultant management/review of drawings ☐Principal Designer ☐Selected Design Role: _____ ☒Attend all primary client design meetings ☐Attend selected/secondary client design meetings ☒Primary Architect role ☐SD/DD design presentations ☐Job captain role/drawing organization ☒SD/DD/CD CAD layouts/design/detailing ☐QA Drawing reviews ☐DD/CD spec writing ☐Other _____

☒*Primary or Staff Architect(s):* Mosbier Studio
Responsibilities: ☐Principal Designer ☐Selected Design Role: _____ ☐Attend all primary client design meetings ☒Attend selected/secondary client design meetings ☐SD/DD design presentations ☐Job captain role/drawing organization ☒SD/DD/CD CAD layouts/design/detailing ☒QA Drawing reviews ☒Other: LEED ☒SD/DD/CD spec writing

PROJECT PHASE CHECKLISTS PREDESIGN 1



Quality Management
Project Administration and Design
PWWG 2012

☒*Job captain:* JP (Initials)- Drawing organization/management
Responsibilities: ☒SD/DD/CD CAD design and detailing ☐QA Drawing reviews ☐DD/CD spec writing ☒physical model production

☐*Intern(s):* _____ _____
Responsibilities: ☐SD/DD/CD CAD design and detailing ☐QA Drawing reviews ☐DD/CD spec writing

Goals/Strategy: (based upon fees, profit allotted, marketing potential, new tech or prototype investment, other)
1. *to strengthen our portfolio of new construction science buildings*
2. *to provide high design yet contextual to campus ('capital A' architecture) within budget*
3. *to successfully lead/coordinate the extensive project team*

☒ *PWWG Project staff meeting:* Schedule/conduct a internal project team staff meeting to review roles.

☐ Other:_____

OWNER/CLIENT DESIGN, GOALS, CONST. BUDGET, SCHEDULE, AND DELIVERY METHOD

☒ *General:* Review overall project info. Review client/owner program

☐ *Contacts:* Create project contact list

☐ *Client contact/responsibilities:*
☒Primary client and staff contact person(s): Richard Manslow (IUP), Barbara Laraia (DGS)

☐Determine what design/data information is required and how information is to be gathered:
☒Additional Program info/meetings (estimate type, participants, number): _____
☒SD meetings (type, participants, number):___
☒DD meetings (type, participants, number):___
☒CD meetings (type, participants, number):___

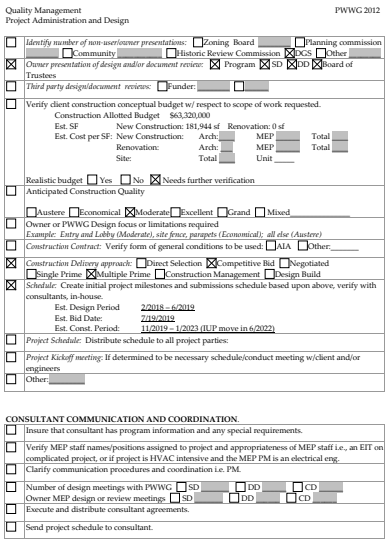
☒ *Owner Provided Existing Condition Information:* Determine/gather any outstanding info required from owner:
☒Land survey –Type:_____ ☐Alta survey ☐Borings/Geotech report ☒Hazmat testing
☐Phase Environmental ☒Existing Building Drawings ☐Physical Need Assessment (HUD)
☐Funder presentation requirements ☐_____

☒ *Owner Provided Performance Requirements:* See Pre-design Decision matrix for list.
☒Owner/Developer Specifications, e.g. DGS: DGS Project Procedure Manual
☐Funder Requirements, e.g. PHFA:_____

☒ *Existing Base Drawings to be created by PWWG* ☐Not required (see IBC requirements or AHJ) ☐Site ☒Building exterior ☒Building interior ☐HABS quality level. *For Demolition purposes*

☒ *Determine relevant Codes, regulations, owner specification AHJ's :*
Preliminary Code identification - ☒ICC 2009 ☒Opt-out municipality (L&I commercial review)
☐Municipality reviewer: _____
☐ADA ☐Zoning: _____ ☐Planning Commission: _____ ☐Historic Review Commission ☒AHJ (Authority having jurisdiction):Indiana Boro for stormwater ☐Funder requirements: _____ ☐Community: _____ ☐Other _____

PROJECT PHASE CHECKLISTS PREDESIGN 2



Quality Management
Project Administration and Design
PWWG 2012

☐ *Identify number of non-user/owner presentations:* ☐Zoning Board _____ ☐Planning commission _____ ☐Community _____ ☐Historic Review Commission ☒DGS ☐Other _____

☒ *Owner presentation of design and/or document reviews:* ☒ Program ☒SD ☒DD ☒Board of Trustees

☐ *Third party design/document reviews:* ☐Funder: _____ ☐_____

☐ Verify client construction conceptual budget w/ respect to scope of work requested.
Construction Allotted Budget $63,320,000
Est. SF New Construction: 181,944 sf Renovation: 0 sf
Est. Cost per SF: New Construction: Arch: ___ MEP _____ Total ___
Renovation: Arch: ___ MEP _____ Total ___
Site: Total ___ Unit ____
Realistic budget ☐ Yes ☐ No ☒ Needs further verification

☐ Anticipated Construction Quality
☐Austere ☐Economical ☒Moderate ☐Excellent ☐Grand ☐Mixed_____

☐ Owner or PWWG Design focus or limitations required
Example: Entry and Lobby (Moderate), site fence, parapets (Economical); all else (Austere)

☐ *Construction Contract:* Verify form of general conditions to be used: ☐AIA ☐Other:_____

☒ *Construction Delivery approach:* ☐Direct Selection ☒Competitive Bid ☐Negotiated ☐Single Prime ☒Multiple Prime ☐Construction Management ☐Design Build

☒ *Schedule:* Create initial project milestones and submissions schedule based upon above, verify with consultants, in-house.
Est. Design Period 2/2018 – 6/2019
Est. Bid Date: 7/19/2019
Est. Const. Period: 11/2019 – 1/2023 (IUP move in 6/2022)

☐ *Project Schedule:* Distribute schedule to all project parties:

☐ *Project Kickoff meeting:* If determined to be necessary schedule/conduct meeting w/client and/or engineers

☐ Other: _____

CONSULTANT COMMUNICATION AND COORDINATION.

☐ Insure that consultant has program information and any special requirements.

☐ Verify MEP staff names/positions assigned to project and appropriateness of MEP staff i.e., an EIT on complicated project, or if project is HVAC intensive and the MEP PM is an electrical eng.

☐ Clarify communication procedures and coordination i.e. PM.

☐ Number of design meetings with PWWG ☐ SD ____ ☐ DD ____ ☐ CD ____
Owner MEP design or review meetings ☐ SD ____ ☐ DD ____ ☐ CD ____

☐ Execute and distribute consultant agreements.

☐ Send project schedule to consultant.

PROJECT PHASE CHECKLISTS PREDESIGN 3

Examples of QA/QC forms from a recent project

Allegheny County Courthouse

effective schedule management

Through our work with many institutional clients, PWWG understands the paramount importance of schedule. We have an excellent track record in schedule control, which is maintained by keeping timing issues at the forefront of the project process and by resolving key issues at appropriate times. Classroom buildings, for example, have critical schedules with inflexible opening dates.

Our internal organization helps ensure that each project meets its schedule and budget:

- Significant Involvement by senior staff: We are selective in our work and project assignments. Our target is for senior staff to be active on no more than five projects at a time in order to ensure that they can be significantly involved in the design.
- Making correct decisions the first time: By approaching decisions with rigor, and through the use of computer models to carefully study options, we avoid late design changes that might lead to delays.
- Schedule Control is Collaborative: We keep timing issues at the forefront of the design process, resolving key issues at the appropriate times, keeping changes to a minimum, and predicting where changes are likely to occur. At the onset of the project, we establish a clear understanding of the client's project goals and building on that knowledge, we develop a specific project approach that defines each phase of the project and outlines the most appropriate ways to implement each phase.

integrating sustainability +

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Oglebay Hall and Ming Hsieh Hall, WVU, Morgantown, WV

sustainability + approach

- We are committed stewards of the natural and built environment.
- PWWG uses the LEED checklist as a framework for discussions with clients about sustainable possibilities and project goals, even when formal certification is not sought. Throughout the design process, we return to the checklist to advance goals for sustainability, and sustainability is a key element in our integrated design process with consulting engineers.
- To design for sustainability **over the long haul,** we design projects to be energy efficient with low environmental impact **today.**
- To make our clients' buildings a legacy for future generations, we choose durable details, methods, and materials, and make the buildings adaptable to changes in use.
- PWWG's focus on existing buildings and urban environments stems from both architectural interest in restoring cultural resource, and from understanding that existing structures and urban infrastructure have immense value in the embodied energy they represent.

CURRENT PROJECTS TRACKING LEED V4

Kopchick Hall, Indiana University of PA, Indiana, PA

ADDITIONAL PROJECTS DEVELOPED TO SUSTAINABLE BUILDING PROGRAMS

Fifth and Clyde Residence Hall, Carnegie Mellon University, Pittsburgh, PA—LEED V4 BD+C Gold

The Garden Room at the National Aviary, Pittsburgh, PA—LEED V4 Gold

museumlab, Children's Museum of Pittsburgh, Pittsburgh, PA—Certified Gold for LEED BD+C: Core & Shell / LEED v4; Certified for City of Pittsburgh 2030 District Goals, and Innovative Strategies for Universal Design (isUD)

Operating Engineers Offices and Training Facility, Pittsburgh, PA—LEED certified, new construction

Ridge at Robinson, Pittsburgh, PA—LEED BD+C: Homesv3-LEED 2008

Oglebay Hall and Ming Hsieh Hall, WVU, Morgantown, WV—LEED Certified renovation and addition

Allegheny County Courthouse Facilities Plan, Pittsburgh, PA—Phased projects designed to City of Pgh 2030 District Challenge.

Pioneer Apartments, New Kensington, PA—LEED certified and designed to Passive House Standards

Carr Hall Renovation, Allegheny College, Meadville, PA—LEED Gold for Commercial Interiors

references +

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WAGSTAFF +
GOETTEL

references +

pwwg

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