



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

Header 1

[List View](#)

General Information [Contact](#) [Default Values](#) [Discount](#) [Document Information](#) [Clarification Request](#)

Procurement Folder: 1408333

SO Doc Code: CEOI

Procurement Type: Central Contract - Fixed Amt

SO Dept: 0211

Vendor ID: 000000160802

SO Doc ID: GSD2400000006

Legal Name: PERFIDO WEISKOPF WAGSTAFF + GOETTEL LLC

Published Date: 5/16/24

Alias/DBA:

Close Date: 5/30/24

Total Bid: \$0.00

Close Time: 13:30

Response Date: 05/30/2024

Status: Closed

Response Time: 11:37

Solicitation Description: EO: Elevator Modernizations - Multiple Facilities Project

Responded By User ID: PWWG

Total of Header Attachments: 1

First Name: Sandi

Total of All Attachments: 1

Last Name: Eaton

Email: seaton@pwwgarch.com

Phone: 412-391-2884



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: 1408333
Solicitation Description: EOI: Elevator Modernizations - Multiple Facilities Project
Proc Type: Central Contract - Fixed Amt

Solicitation Closes	Solicitation Response	Version
2024-05-30 13:30	SR 0211 ESR05302400000007429	1

VENDOR
000000160802
PERFIDO WEISKOPF WAGSTAFF + GOETTEL LLC

Solicitation Number: CEOI 0211 GSD2400000006
Total Bid: 0
Response Date: 2024-05-30
Response Time: 11:37:21
Comments:

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

Vendor Signature X	FEIN#	DATE
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All offers subject to all terms and conditions contained in this solicitation

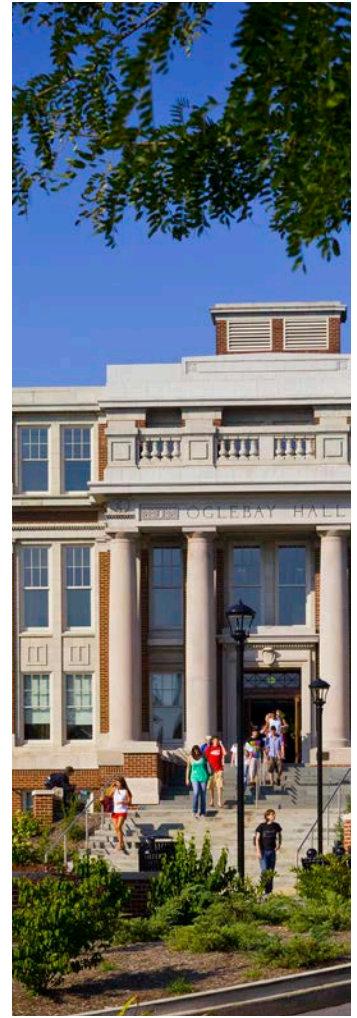
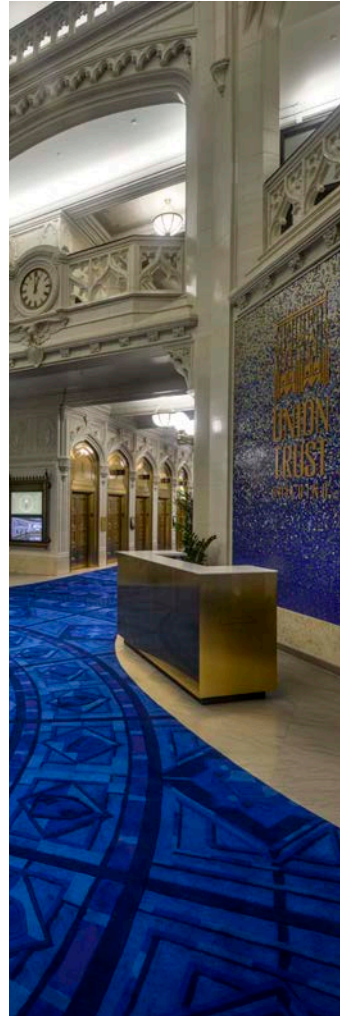
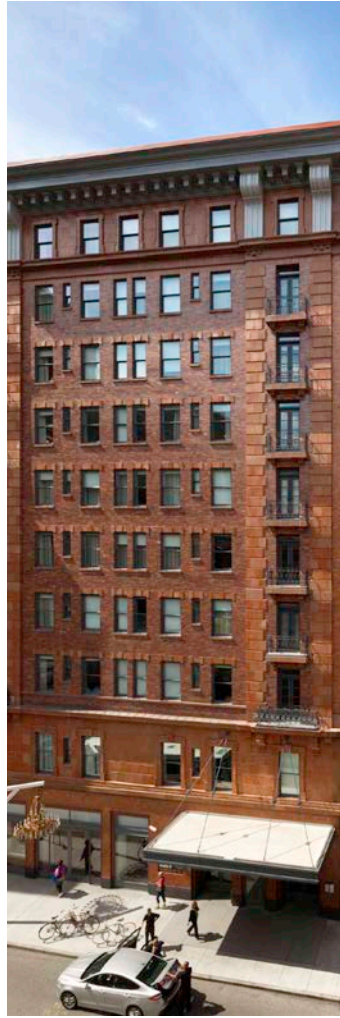
Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	EOI: Elevator Modernizations - Multiple Facilities Project				0.00

Comm Code	Manufacturer	Specification	Model #
81101508			

Commodity Line Comments:

Extended Description:

EOI: Elevator Modernizations - Multiple Facilities Project



PROPOSAL FOR PROFESSIONAL A/E DESIGN SERVICES FOR
CEOI 0211 GSD2400000006
ELEVATOR MODERNIZATIONS
MULTIPLE FACILITIES PROJECT

Prepared for the
STATE OF WEST VIRGINIA GENERAL SERVICES DIVISION
MAY 30, 2024

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.: GSD2400000006

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

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

Addendum Numbers Received:

(Check the box next to each addendum received)

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

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that 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

5/30/2024

Date

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



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Elevator Assessment Report Sample

| cover +
letter

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

May 30, 2024

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

RE: CEOI 0211 GSD2400000006 ELEVATOR MODERNIZATIONS MULTIPLE FACILITIES PROJECT

Dear Ms. Pettrey and Members of the Selection Committee,

We have carefully studied the RFP and documents provided and 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 current and past work at the Capitol Complex campus at Building 4 and Building 3 respectively. We also want to underscore the specific qualifications of our team and the unique aspects that PWWG will bring to this project:

- Approximately 50% of PWWG's work is focused on re-use, re-purposing, and renovation, including historic era buildings, across a variety of building typologies, with elevator modernization.
- PWWG completed elevator equipment assessment and evaluation of eleven (11) buildings for the Department of Administration in 2014.
- PWWG completed elevator assessment and finish upgrades at Building 3 and are in-progress with elevator modernization in Building 4.
- PWWG's internal team lead for this project is one of our most senior and skilled staff with experience focused on similar projects and working with WV GSD.
- We have composed a team of consultants who are expertly skilled in elevator modernization and related upgrades.
- 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.

We encourage you to reach out to our references to discuss how we have provided a high level of service to them in the past and we welcome the opportunity for an interview to elaborate on our capabilities and discuss with you our ideas for the project.

Sincerely,



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

| project +
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.

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

22

Total # of Employees

3

Principals

12

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
- Campbell Hall Shell Space Fit-out for Labs, Classrooms and Offices - Phases 1 & 2, West Liberty University * +
- Shaw Hall Renovation, West Liberty University +
- Main Hall, West Liberty University
- Science Building Study, West Liberty University
- West Virginia State Capitol Rotunda
- 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, WVU at Parkersburg
- Child Development Center, WVU at Parkersburg
- STEM Building Study, WVU Potomac State
- Nursing Program Expansion Study, WVU Potomac State
- National Center for Youth Science Education Masterplan
- Wheeling Heights II Housing, Wheeling
- Holiday Inn Hotel & Suites, Beckley +

* Projects that included modernization / upgrades to existing elevators

+ Projects that included new elevators or platform lifts

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, healthcare and educational facilities 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 60% reduction in energy/operating costs** earning Energy Star Certification and EPA qualified on government renovation projects!

- ♦ Mechanical
- ♦ Electrical
- ♦ Plumbing
- ♦ Fire Protection
- ♦ Forensic
- ♦ Peer Review
- ♦ 3D Scan-to BIM
- ♦ 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.

“Family Owned & Operated Engineering Firm
providing Professional Design Services for 30 years”



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.



PROJECTS THAT INCLUDE ELEVATOR EXPERIENCE



Historical

Jackie Withrow State Hospital
Mason County Courthouse
Robinson Grand Performing Arts Theater
St. Patrick's Church
Tyler County Courthouse Additions/Renovations
WV Children's Home
WV General Services Division

Government/Commercial

Chase Towers - Charleston, WV
Cultural Center – Charleston, WV
Belmont County Commission
Highlands Museum
Huntington Bank - Charleston, WV
Jackson County Courthouse/Annex
Kanawha County Judicial Building
Kanawha Co Metro 911 Center
Kohl's Department Store
Laidley Towers – Charleston, WV
Mercer County Courthouse Annex
Pt. Pleasant Museum Addition
Public Service Commission Headquarters
West Union Bank
WV Air National Guard
WV Army National Guard
WV Division of Transportation
WV Dept. of Education
WV Dept. Health & Human Resources

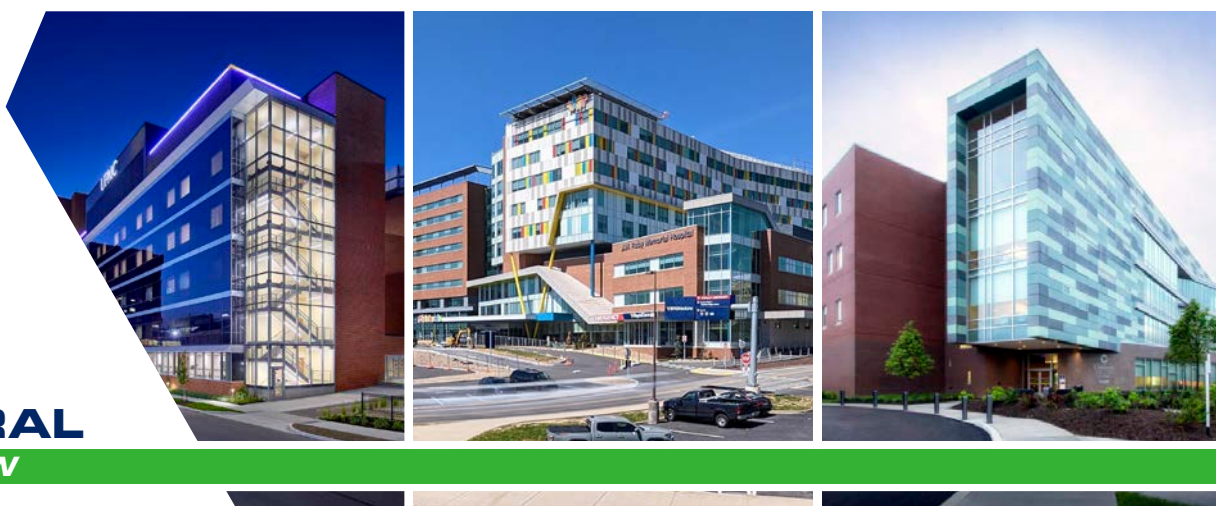
Education

Academy of Careers and Technology
Andrew Jackson Middle School
Beckley Stratton Middle School
Ben Franklin Career & Technical Center
Clay County Schools
Davis Hall – WV Tech

Dunbar Middle School
Elkins Middle School
George Washington High School
Greenbrier West High School
Harris Hall – Marshall University
laeger Elementary School
Mercer County Schools – multiple schools
Nick J. Rahall Technology Center - Concord University
Ohio University - Bennett Hall, Stephenson Library
Pendleton County Middle/High School
Princeton Middle School
Raleigh County Schools – multiple schools
Riverside High School
St. Marys High School
South Charleston Middle School
South Charleston High School
Southern WV Community & Technical Logan & Williamson Campuses
Southside K-8 School
University of Charleston Innovation Center
Winfield High School
Woodrow Wilson High School
White Hall - WVU
WV Wesleyan Benedum Center

Healthcare

CAMC General Division
Charleston Surgical Hospital
Roane General Hospital
VA Clarksburg
VA Huntington - Fisher House
United Hospital Center
William R. Sharpe Jr. Hospital
Welch Community Hospital



STRUCTURAL FIRM OVERVIEW

Atlantic Engineering Services (AES) provides structural engineering consulting services throughout the United States. Established in 1986, AES is widely respected for its expertise and services, and is located in Pennsylvania, West Virginia, and Florida. Our clients benefit from proactive, skilled engineers engaging other disciplines and sharing regional experience.

Synergy, creativity, and timeliness are the principles that drive our firm. Continuous interaction between designers and field observers ensures that your design's intent can be accurately translated and properly executed, and specialized BIM technology enriches collaboration between A/E/C firms, fabrication facilities, and other consultants for any type of project, regardless of its complexity or difficulty.

For our clientele, every project has required more than efficient structural support. Depending on the client and their surrounding community, we have helped facilities remain operational during construction, expedited steel design and fabrication services for fast-tracked projects, and implemented droning services to improve visual access.

Most importantly, our professionals listen. For every project our engineers digest everything that is most important to the owners, the goals of the design team, and input from other vital sources to develop structural options that fit your design's framework. We become invested in your goals, crafting ours around the visions and needs provided to us.

Professionals at our firm enjoy what they do and so they do it well, dedicated to producing lasting structures where people can live, work, play, learn, heal, worship, and more. At AES, we take great pride in **bringing architectural visions to life**.

650 aggregate years of
structural design
experience

\$17 billion in total
construction
costs

30,000+ total projects

this many clients have returned for
this many projects

100s / 10

25 / 100

8 / 200

1 / 500

INDUSTRIES

assisted living civic clubhouse commercial federal + municipal film industry healthcare
higher education historic preservation hospitality industrial + energy
k-12 education marina multi-family museum + library
parking + transportation residential retail

adaptive reuse constructability reviews BIM
cold-formed steel concrete delegated design design-build
elements & connections facade & cornice forensic engineering
historic restoration military facility design specialized medical equipment steel designs
surveys + inspections sustainability tilt-up unmanned aerial services wood framing + design

SERVICES

TESTIMONIAL

Michael J. Cain, Project Executive @ MASCARO CONSTRUCTION COMPANY

"AES performed all of the structural engineering and structural detailing for the project and performed these services in an exemplary fashion. Mascaro has worked with AES on many signature projects since the early 1990's in every instance... AES proved to be extremely professional, cooperative and a true pleasure to work with. I certainly would not hesitate to use AES's professional design services on any project and I look forward to working with them again soon."

bringing architectural visions to life // aespi.com

412.321.4901; mjcain@mascaroconstruction.com

West Virginia Project Experience

Atlantic Engineering Services (AES) has provided structural engineering services throughout the state of West Virginia since 1986. Below is a sample listing of projects:

Mountain State Blue Cross Blue Shield / Parkersburg, WV

Bluefield Regional Medical Office Building / Bluefield, WV

Goodwill Store / Morgantown, WV

Diocese of Wheeling-Charleston Campus Renovations / Wheeling, WV

WVU Healthcare Ruby Memorial Hospital Infill / Morgantown, WV

WVU Healthcare Ruby Memorial Hospital Southeast Tower / Morgantown, WV

DOE / NETL Building 1 / Morgantown, WV

Goodwill Store / Kingwood, WV

Camp Tygart Improvements - Phase 1 / Huttonsville, WV

DOE / NETL Building 14 Renovations / Morgantown, WV

WVU Healthcare - Berkeley Medical Center MOB Entrance Canopy / Martinsburg, WV

WVU Healthcare Ruby Memorial Hospital MRI Installation / Morgantown, WV

WVU Medical Office Building / Morgantown, WV

WVUH-BMC Outpatient Surgery Suite at MOB / Martinsburg, WV

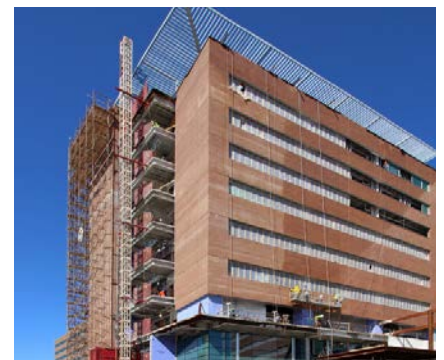
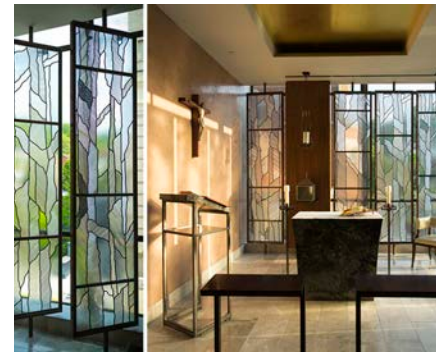
WVU Healthcare Atrium and Infill Revolving Door / Morgantown, WV

WVU Medicine Children's Hospital / Morgantown, WV

Wheeling Streetscape / Wheeling, WV

NETL Building 26 Renovation / Morgantown, WV

Riverview Towers Balcony Repairs / Wheeling, WV



170+ ADDITIONAL PROJECTS IN WEST VIRGINIA





Vertical Transportation – Engineering & Consulting

SKA Elevator Consulting Group is an independent third party that specializes in the business of vertical and horizontal building transportation consulting that currently operates out of offices in New York, NY and Phoenix, AZ.

Our client base consists of internationally known architects, developers, building owners, contractors and public agencies. We provide full services from conceptual designs through the final stages of construction and testing of vertical transportation systems. Building segments include commercial offices, retail, hospitals, hotels, residential, parking facilities, museums, libraries, schools, correctional, public transit, and other specialty facilities that are located throughout the world. A comprehensive list of those projects is available upon request.

The firm made up of professionals drawn from throughout the elevator industry with an average of 40 years in experience. Our people have a broad range of expertise in all phases of elevator consulting including:

- The design and installation oversight of vertical transportation systems of **new construction** projects.
- The evaluation, planning and installation oversight of the **modernization** vertical transportation systems in existing buildings.
- The auditing and evaluation of elevator contractor performance of **maintenance and repairs** of elevators and escalators in existing buildings.
- The evaluation and life-cycle assessment of existing equipment for **due diligence** in real estate transactions.
- Third party **witnessing of code testing** of vertical transportation systems.

Our professional affiliations include; The International Association of Elevator Engineers, The International Association of Elevator Consultants, American Society of Mechanical Engineers, The Construction Specifications Institute and The Council of Tall Buildings and Urban Habitat.

We invite you to visit our website at: www.skaecg.com





Vertical Transportation – Engineering & Consulting



Our experience working with West Virginia State Buildings includes a complete equipment assessment and evaluation of eleven (11) buildings for the Department of Administration in 2014 as listed below. Additionally we are in-progress of a complete elevator modernization project in Building 4.

EQUIPMENT SUMMARY

Building No.	Elevator No.	Equipment Type	Floors Served	Capacity (lbs.)	Speed (fpm)	Age (Years) Original/Since Modernization	
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Phase 1

7	1	Pass. Hydraulic	3	2,000	125	46	0
	2	Frt. Hydraulic		10,000	100		
1	1&2	Wheelchair Lift	2	750	15	20	0
36	1&2	Pass Hydraulic	5	2,500	150	57	28
	3	Frt. Traction		4,000	75	57	0
23	1	Pass. Traction	4	2,500	200	57	43
	2	Pass. Hydraulic	5	3,500	140	26	0

Phase 2

17	1	Pass. Hydraulic	3	2,100	100	36	0
25	1	Pass. Hydraulic	6	2,500	100	25	0
	2	Frt. Traction	5	6,000		59	0
4	1&2	Pass. Traction	8	2,500	500	61	23

Phase 3

74	1	Pass. Hydraulic	3	2,100	100	35	0
84	1	Pass. Hydraulic	3	2,500	125	15	0
86	1&2	Pass. Hydraulic	5	3,000	150		0
88	1	Pass. Hydraulic	2	2,500	100	16	0



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.



| key +
personnel

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

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



Joseph Roy,
AIA
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**
Principal-in-Charge
- Ted Zachwieja III, PE, CEM**
CTO, MEP Engineer/Commissioning
- David Cotton, PE, LEED AP BD+C**
MEP Project Engineer

- Mark Estep, PE**
MEP Engineer
- Paul O'Dell, PE**
MEP Engineer
- Jim Watters**
Construction Administration

ELEVATOR SPECIALIST
SKA

- Steve Kinnaman**
Principal Consultant

STRUCTURAL
Atlantic Engineering Services

- Gil Taylor, PE**
Principal Engineer

COST ESTIMATING
Morgan PCC

- Morgan Kronk**
Principal Cost Estimator

commitment of capacity and dedicated staff +

Based on the project schedule provided and our current workload and backlog, PWWG and our consultant team have the availability and capacity to staff the project. We will be dedicated to your project from start to finish, providing continuity with senior staff and project team included in this submission.

key personnel +



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

PROJECT EXPERIENCE

West Virginia State Capitol Office Building 4 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. *Principal-In-Charge*

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 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*

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*

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. *Masonry Restoration Specialist*

Gwynn Building Renewal & Reuse, Cincinnati, OH—For a repeat client, rehab and transformation of a historic 13-story Beaux Arts office building for an upscale hotel with signature restaurant, meeting and event spaces; the project, in the downtown Main Street Historic District, will have historic tax credit funding and target LEED Certification. 154,000 sf. *Principal-In-Charge*

Steamfitters Local Union #449 Technology Center, Jackson Township, PA—Phase 1 provides high bay labs and classrooms for state-of-the-art workforce training. 75,000 sf. *Project Manager*

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

key personnel +



Joseph Filar +

LEED AP
SENIOR ASSOCIATE

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.

PROJECT EXPERIENCE

West Virginia State Capitol Office Building 4 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*

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*

Pittsburgh International Airport Elevators, Pittsburgh, PA—addition of private/public elevators in the airside terminal. *Project Manager*

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. *Project Manager*

21c Museum Hotel Durham, Durham, NC—Rehab and transformation of the historic 17-story Hill Building in downtown for an innovative hybrid art museum and 125-room boutique hotel with galleries, a signature restaurant, and event spaces; earned Historic Tax Credit funding. 134,000 sf. *Project Manager*

Eighth & Penn Apartments, Pittsburgh, PA—Rehab of two historic high-rise buildings and design of two contemporary ones for an ensemble of 135 market rate rental apartments in the Cultural District. Street level commercial wraps around the building; earned Historic Tax Credit funding. 190,000 sf. *Project Manager*

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

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

key personnel +



joseph roy +

aia
ASSOCIATE

Since joining PWWG in 2021, Joe has demonstrated his natural ability to work on a range of tasks simultaneously, as a team member on projects for market rate housing, a private gallery and residence, and a mixed-use commercial addition. His prior experience in NYC and Boston spanned building renovations, new construction, and interiors, with responsibilities for design and detailing for large scale affordable housing, a high-end apartment, and historic rowhouses.

PROJECT EXPERIENCE

West Virginia State Capitol Office Building Four Renovation, Charleston, WV—PWWG's 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. *Team Member*

Allegheny Branch House Lofts Renewal & Reuse, Pittsburgh, PA—For a repeat client, conversion of a landmark four-story heavy timber and masonry industrial building for 36 unique apartments. Design incorporates distinctive existing architectural elements and resolves difficult parking and access on the dense urban site. 47,000 sf. *Project Manager*

Garden Theater Block Apartments, Pittsburgh, PA—New five-story building anchoring a prominent corner in a historic neighborhood; 50 market rate apartments with parking nearby, and first floor commercial space. Includes renovation of two historic townhouses into nine apartments. 50,000 sf. *Project Architect*

Gwynn Building Renewal & Reuse, Cincinnati, OH—For a repeat client, rehab and transformation of a historic 13-story Beaux Arts office building for an upscale hotel with signature restaurant, meeting and event spaces; the project, in the downtown Main Street Historic District, will have historic tax credit funding and target LEED Certification. 154,000 sf. *Team Member*

Letsche School Apartments & Townhomes, Pittsburgh, PA—Adaptive reuse of 2 vacant public school buildings on the National Register, plus 4 new townhomes will create much-needed mixed-income housing (82% Affordable) and contribute to revitalization of the historic Hill District. Substantial interior renovation preserves essential architectural elements, while adding modern amenities and a community space; LIHTC funding. 53,000 sf (reno) + 6,700 sf (townhomes). *Team Member*

JOINED PWWG 2021

EDUCATION
Bachelor of Architecture,
Certificate in
Classical Architecture,
University of Miami

REGISTRATION
Architect in NY

**PROFESSIONAL
ASSOCIATIONS**
American Institute of
Architects (AIA) Member

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

key personnel +



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 PWVG's multi-million dollar projects for academic, commercial, and non-profit clients. Jan enriches PWVG firm culture with workshops for staff and local architects on construction, and he develops and implements many of the firm's quality control initiatives.

PROJECT EXPERIENCE

WV State Capitol Complex Elevator Upgrades and Modernizations, Charleston, WV—Upgrades to 19 elevators in 11 buildings at the Capitol, several on the National Register of Historic Places. *Initial Study Author*

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*

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*

Cincinnati Music Hall Exterior and Interior Revitalization, Cincinnati, OH—PWVG 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*

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*

21c Museum Hotel Durham, Durham, NC—Rehab and transformation of the historic 17-story Hill Building in downtown for an innovative hybrid art museum and 125-room boutique hotel with galleries, a signature restaurant, and event spaces; earned Historic Tax Credit funding. 134,000 sf. *Specifications / Project Support*

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. *Specifications / Project Support*

JOINED PWVG 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

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

Todd Zachwieja, PE, CEM, LEED AP



Todd has over 45 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 for the Technology Park in South Charleston and 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, healthcare and industrial structures including high-rise building renovations. Todd designed renovations to many facilities which received **Energy Star Certifications** placing them in the nation's top 25% for energy efficiency. *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 EPA's which requires buildings use over 50% less energy than buildings designed using ASHRAE 90.1.

GOVERNMENT/COMMERCIAL PROJECT EXPERIENCE

- Bank One/Chase Towers
- Bayer Material Science
- Calvert County Aquatic Center, MD
- Charleston Area Medical Center
- Chief Medical Examiners Office Retrofit
- Culture Center, HVAC & Fire Protection, WV State Capitol Complex
- General Motors Corp. Re-commissioning
- Harvard University Research Laboratory
- Hopemont Hospital, WVDHHR
- Jackie Withrow Hospital, WVDHHR
- Jackson County Courthouse Annex
- Kanawha County Commission: Judicial Annex additions/renovations
- Kanawha County Courthouse
- Mercer County Schools
- Mildred Mitchell Bateman Hospital
- Kanawha County Schools
- Laidley Towers
- Marshall University
- Mercer County Courthouse Annex
- Olin Corporation
- Pocahontas County 911/EMS Center
- Public Service Commission of WV
- Raleigh County Schools
- Rhone-Poulenc
- Roane General Hospital
- Robinson Grand Performing Arts Theatre
- Santa Anna Federal Building, CA
- Tyler County Courthouse
- Tyler County 911 Center - **Net Zero**
- Tyler County Schools
- Toyota Motor Manufacturer, WV Inc.
- UC Davis Veterinary Medicine, CA
- 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 Fuel Cell/ Maintenance Hangars at Yeager Airport - **LEED Silver Certified**
- WV Army National Guard
- WV Capitol Complex Renovations
- WVDHHR - State-wide hospitals
- WV DOH Testing Lab
- WV Division of Natural Resources
- WV Division of Protective Services
- WV Higher Education Authority
- WV General Services Division
- WV State Capitol Complex renovations
- WVU Health System



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.



Certified Energy Manager
(C.E.M.) National
Certification No. [REDACTED]



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.

Ted Zachwieja III, PE, CEM

Ted, a third generation engineer and Principal in the firm, has over 20 years of experience in building construction design industry that includes award winning designs including the first Net Zero 911 Center in WV and technology awards for design innovation in multiple facilities. Innovation in HVAC, Plumbing, Fire Protection, lighting design/controls, technology, engineering design, communication methods and management of the design process are the areas of his expertise. As a pioneer and a believer in technological processes, Ted has championed Integrated Design Practices and Commissioning that has become the fabric of ZDS's day-to-day operations.

Ted develops ZDS's 3D Scanning and BIM 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 is the Engineer-of-Record for design projects. As Engineer of Record he is responsible for all aspects of the project and takes a hands-on approach to the overall management, design and construction of the project. He works well with all stakeholders involved throughout the entire project lifecycle.

As Chief Technical Officer Ted develops and deploys a strategy of forward thinking and strategic development for ZDS' Integrated Design Processes, research and development into new technologies for improving quality of services for our clients.

Ted's project experience includes design and commissioning for electrical, lighting, security, IT, A/V, heating, ventilating, air conditioning, plumbing, fire protection, and acoustical 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. He has significant experience in designing, commissioning and implementing efficient lighting and HVAC systems for various commercial, healthcare and educational facilities.

Ted maintains an active membership in the ASHRAE professional society and also has a lifetime membership in 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 served on the Electronic Communications Standing Committee with ASHRAE. He has designed renovations to existing facilities which received ***Energy Star Certifications*** placing them in the ***nation's top 25% of energy efficiency*** facilities.



PROFESSIONAL REGISTRATIONS

Professional Engineer:

Florida 

West Virginia 

Certified Energy Manager (C.E.M.)

National Certificate

No. 



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

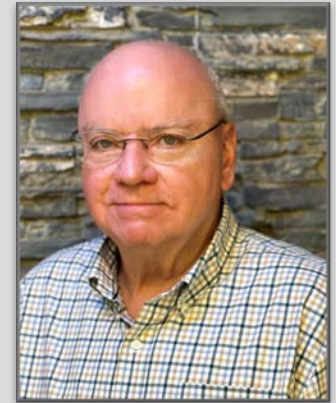
1st Place 2023 ASHRAE Technology Award, Region VII

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



Jim has over 50 years of 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 hospital campus in Georgia that included the conception, design and construction administration for the installation of a 1.5 Megawatt emergency generator to provide peak shaving/load shedding to save on the campus utility costs as well as provide emergency power to the facility. He has previously provided design and Construction Administration services for a multitude of labs of varying used for Charleston Area Medical Center (CAMC). 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.



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



GOVERNMENT/COMMERCIAL PROJECT EXPERIENCE

- Bluefield Area Transit Authority Administration and Maintenance Facility
- Kentucky Judicial Center, Boyd County
- CAMC Various Labs
- Chief Medical Examiners Office Lodox Renovations
- Coal Heritage Highway Authority
- Chase Towers (formerly 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
- Jackie Withrow Hospital, WVDHHR
- Jackson County Libraries Renovations
- Kanawha County Commission Judicial Annex Renovations
- Laidley Towers
- Meadowbrook Rest Areas
- Morgantown Welcome Center
- Pocahontas County 911/EMS 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
- Tyler County 911 Center - **Net Zero**
- 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

David is a professional Mechanical Engineer with over 18 years of experience in the design and construction of over 500 projects having construction values up to \$35 million. His commissioning/design experience ranges from commercial, industrial, institutional, healthcare, education, restaurant, retail, government, airport, and recreational facilities.

David collaborates well with fellow engineers, architects, owners, contractors, code officials and vendors to meet the goals and objectives. As a project manager he successfully manages projects from start to finish in design, bidding, and construction administration.

PROJECT EXPERIENCE

Elevator Additions/Replacement

- Woodburn School Elevator Addition
- St. John's Elevator Addition
- Fellowship Bible Church Elevator Addition
- Blaney House Elevator Addition
- Koupal Towers Elevator Replacement

Elevator New Construction Projects

- Antero Office Building
- Thrasher Office Building
- White Oaks Progress Center
- Beckley Police Station
- Beitzel Office Building
- Dominion Office Building
- Bridgeport CVB
- McDowell County Board of Education
- WVU Rehabilitation Center
- Gaston Avenue Apartments
- Glenmark Office Building
- Health Plan Office Building
- Jerry Dove Medical Office Building
- Microtel
- Best Western
- Hawthorn Suites
- Homewood Suites
- Courtyard Marriot

Other Project Experience

- Tyler County Courthouse Additions/Renovations
- Tyler County 911 Center - **Net Zero**
- New Clendenin Elem Commissioning
- Mabscott Elem Renovations/Cx
- Independence Middle HVAC/Roof Renovations and Commission
- Harrison County 911/EMS Center
- Shady Spring Middle School HVAC Renovations & Cx
- Maxwell Hill Elementary School HVAC Renovations & Cx
- Braxton County 911/EMS Center
- Saint Marys K-8 School Renovations
- Tyler Consolidated MSHS Commissioning
- Dominion Office Building - **LEED Gold**
- Mon General Hospital Echo Renovations
- Mon Health LTAC for Acuity
- United Hospital Center POB 4th Floor Renovations
- Clarksburg Comprehensive Care Clinic Renovations
- Jerry Dove Medical Office Building
- Medbrook Building HVAC Replacement
- Pocahontas County 911/EMS Center
- Mylan Pharmaceuticals
- Beckley Police Station
- Doddridge County Athletic Complex
- Boy Scouts of America, Rex W. Tillerson Leadership Center
- White Hall Public Safety Building
- Webster County 911/EMS Center
- Beitzel/Pillar Innovations Office Building
- Percival Hall Absorption Chiller and Cooling Tower Replacement
- Tyler Consolidated MS/HS Renovations and Commissioning
- Thrasher Engineering Office Building, Bridgeport
- Upshur County 911/EMS Center
- WVU Creative Arts Center Rehearsal Hall
- WVU Towers Dining Hall Renovations
- WVU Athletic Performance Center
- HP Hood Addition/Renovations, Winchester, VA
- Dominion Office Building, Delmont, PA
- University of Pittsburgh Softball Practice Facility
- Westmoreland Community and Technical College, Indiana, PA
- WVU Alumni Center
- WVU Biomedical Research Facility
- WVU Milan Puskar Locker Room Renovations
- NOAA GOES-R Supercomputing Center, Fairmont, WV
- WV Capitol Complex Bldg. #3 & #4 Renovations and Commissioning
- Renaissance Academy, Morgantown, WV
- City of Bridgeport WWTO
- VA Medical Center; Audiology Task Lab, Clarksburg, 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, Past President

National Fire Protection Association

WV Society of Healthcare Engineers

Mark has over 33 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
- Elevator Upgrade for 1500 MacCorkle Ave SE with Otis Elevator
- 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 including elevator upgrade
- 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 four story building including elevator
- Hargis Laundry Facilities; laundry facility 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
- Upshur County Commission; Upshur County Courthouse Addition
- 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 including new elevators
- Raleigh County Airport; Runway Lighting Upgrade
- Yeager Airport; Runway & Tarmac Repairs
- Huntington Housing Authority; New 50 Unit Apartment Building; Administration Building Renovations including elevator
- 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
- Tyler County Courthouse Additions/ Renovations
- WV Department of Transportation
- Kellys Creek Bridge Replacement, Cedar Grove
- Marmet Pony Truss Bridge Replacement
- 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 
Maryland 
Virginia 
Kentucky 
Ohio 

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



Paul has 30 plus 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/COMMERCIAL PROJECT EXPERIENCE

- WVARNG Armory/Annex Bluefield
- WV Capitol Complex Central Bldg. #3 Renovations and Campus Central Boiler Plant
- 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 Assembly Plants in Lordstown OH, Janesville WI, Pontiac East MI, Bowling Green KY, Arlington TX
- Harrison County Bank
- IMC Office Bldg.
- Riverside High School Renovations
- Chief Medical Examiners Lodox CT Scanner Renovations
- Pocahontas County 911/EMS Center
- Kanawha County Commission, Judicial Annex Renovations
- Mercer County Courthouse
- Tyler County Courthouse Additions/Renovations
- Tyler County 911 Center - **NET ZERO**
- 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
- WV Capitol Complex Bldg. #3 Central Boiler Plant Additions/Renovations
- Numerous K-12 School Renovations including for Mercer, McDowell, Raleigh, Kanawha, Clay, Grant, Harrison, Marion, Pleasants, Pocahontas, Putnam, Summers, Tyler, Tucker, Upshur, Webster County Schools.



PROFESSIONAL REGISTRATIONS

Professional Engineer:
West Virginia

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

AWARDS AND RECOGNITIONS

1st Place 2023 ASHRAE
Technology Award, Region VII





PERSONAL SUMMARY

Mr. Taylor has a wide range of projects with a major emphasis in medical facilities of all types and sizes, historical buildings, transportation and parking facilities, residence halls and educational buildings at major institutions of higher learning, and commercial facilities. His work includes cast-in-place concrete, post-tensioned concrete, and conventional steel framing systems. Not only does he engage the rest of the design team and the owner to provide creative, economic, and sustainable structural solutions, but he guides his team through a hands-on approach. He is involved in daily project supervision, project scheduling, team and client communications, and design oversight. He routinely conducts progress and coordination meetings on projects in progress, keeping in mind the needs and goals of his clientele.

REFERENCES

Apostolos (Paul) T. Nacopoulos
Senior Program Manager
Allegheny Health Network
814.452.7398
apostolos.nacopoulos@AHN.org

Brian V. Iavarone
Director of Facilities and Construction
UPMC Hamot
814.877.6318
iavaronebv@upmc.edu

Ronald Mattocks
Construction Coordinator
Meadville Medical Center
814.333.5000
rmattocks@mmchs.org

EDUCATION

Bachelor of Architectural Engineering
Pennsylvania State University, 2000
Master of Architectural Engineering
Pennsylvania State University, 2000

PROFESSIONAL REGISTRATIONS

Licensed Professional Engineer in:
Arizona, Colorado, Florida, Georgia, Kentucky, Maryland, Mississippi, Montana, Nebraska, New York, North Carolina, Ohio, Pennsylvania, Tennessee, and West Virginia

EXPERIENCE

Mr. Taylor has served as the Principal for our West Virginia office since its opening, and has provided his structural expertise for a wide variety of projects including facility studies, new construction and renovations, building additions, and structural condition assessments throughout the United States.

Mr. Taylor's experience includes work for many different project types, including designing entire new structures; rehabilitating historic structures; facility expansions, additions, and department upgrades; and providing structural solutions for equipment including installations and retrofitting.

Recent projects designed by Mr. Taylor have reached construction costs as large as \$280 million. His daily responsibilities include attending design and development meetings, supervising the production of construction documents, reviewing shop drawings, issuing revision sketches, attending site visits and construction meetings, and completing site visit and structural assessment reports.

FEATURED PROJECTS

West Virginia University Oglebay Hall | Morgantown, WV

Home of the Department of Forensic and Investigative Science at West Virginia University, this project added state-of-the-art classrooms, labs, and support spaces as well as the restoration of brick, limestone, and terracotta for the exterior façade. The structure also included the addition of Ming Hsieh Hall, containing two lecture halls and a rooftop parking deck. Additionally, exterior facade restoration was completed for this building that is listed on the National Register of Historic Places.

66,000 SF | \$23.5M Addition & Renovation

WVU Medicine, J.W. Ruby Memorial Hospital | Morgantown, WV

AES's work at Ruby includes two joined, 10-story patient towers known collectively as the Southeast Tower. Other work includes the recently completed Heart and Vascular Institute, the main lobby expansion and infill, the expansion of the Neonatal Intensive Care Unit, and the John Michael Moore Trauma Center. Other projects include a new Children's Emergency Department and a new, connected 8-story Children's Hospital addition.

235,000 SF | \$280M Addition & Expansion

WVU Medicine, Heart and Vascular Institute | Morgantown, WV

Brought onto the project after construction began, AES was tasked with taking built systems and supplementing them in order to better utilize existing space. All of the imaging and procedural spaces were redesigned during construction, including 3 operating rooms, 3 hybrid operating rooms, a dual-plane and bi-plane CT, a 4DCT space, an EP lab, and a catheterization lab in a level of the building with floor-to-floor clearances intended for office and administration spaces.

110,000 SF | \$50M Construction



steve kinnaman

PRINCIPAL ELEVATOR CONSULTANTS

After 15 years as Principal Consultant at three international elevator consulting firms, in 2009 Mr. Kinnaman formed his own firm, Steve Kinnaman & Associates LLC dba: SKA Elevator Consulting Group. Steve brings 51 years of experience in the vertical transportation field to the SKA team. Prior to forming his own firm, he was a principal in the west coast elevator consulting firm of HKA and prior to HKA he was with Jaros, Baum & Bolles (JB&B), a large international Consulting Engineering firm in New York City, as Director of the Vertical Transportation Department. Steve's New York operation was also responsible for providing all of the vertical transportation support for the JB&B office in London. Making the transition to consulting and design of vertical transportation systems Steve served as Regional Manager and Principal Consultant in New York for Lerch Bates and Associates, a large international elevator consulting firm, before moving to JB&B. His background includes the manufacturing and contracting as well as the consulting segments of the business. In the manufacturing and contracting segment, he was involved with product planning and application, equipment application, analysis, sales and marketing, construction project management and regional operations management. He currently does an extensive amount of work in New York City, the Middle East and in Europe.

EDUCATION

BA, Northern Arizona University, 1969

CERTIFICATIONS

AESA Certified Elevator Inspector [REDACTED]

New York City Licensed Elevator Inspector No. [REDACTED]

PROFESSIONAL ASSOCIATIONS

Member, International Association of Vertical Transportation Professionals
Member, International Association of Elevator Engineers

Member, National Association of Elevator Safety Authorities

Member, Construction Specifications Institute

Member, American Society of Mechanical Engineers

Member, Council of Tall Buildings and Urban Habitat

PROJECT EXPERIENCE

Olive Grove Tower, Istanbul, Turkey

300 Madison Avenue, New York, NY

360 Madison Avenue, New York, NY

Canary Wharf, Buildings WF9, DS-1, DS-3, London, England 745 Seventh Avenue, New York, NY

7 World Trade Center, New York, NY

The Freedom Tower – World Trade Center, New York, NY

Towers 2, 3 and 4 at the World Trade Center, New York, NY

Soyak Towers, Istanbul, Turkey

50 Hudson Yards, New York, NY

55 Hudson Yards, New York, NY

70 Hudson Yards, New York, NY

360 Rosemary Tower, West Palm Beach, FL

Sony Center at Potsdamer Plaza, Berlin, Germany

West End Plaza Mixed-Use Complex, Frankfurt, Germany

Random House Office & Residential Tower, New York, NY

Federation Towers, MIBC Plot #13, Moscow, Russia

Project Slava Mixed-Use Complex, Moscow, Russia

Moscow Int'l Business Centre, Plot #14, Moscow, Russia

Moscow Int'l Business Centre, Plot #12, Moscow, Russia

Taishen Int'l Bank Office & Residential Tower, Taipei, Taiwan





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 Virginia 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



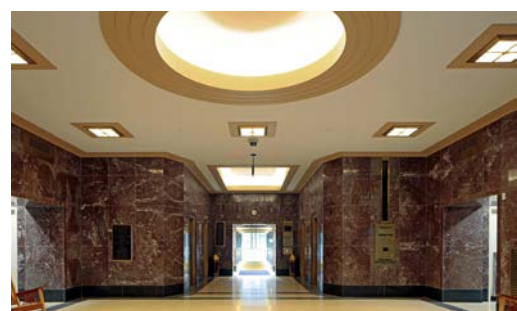
MORGAN

PROPERTY &
CONSTRUCTION
CONSULTANTS

| relevant +
projects

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WAGSTAFF +
GOETTEL

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL



wv state capitol building #3 renovation : charleston, wv

re-use/renewal of a landmark historic office building

The project breathed new life and purpose into one of the most prominent buildings on the WV Capitol campus, with preservation, restoration, and adaptive reuse of historic Building 3 as a modern, well-functioning and welcoming office space.

PWWG'S DESIGN BLENDS HISTORIC FEATURES WITH LATEST WORKPLACE AMENITIES

- Interior was taken back to its structural shell and core, maintaining historically important features and spaces. All new systems were installed, and the functional core of the building was reconfigured to provide new amenities to building occupants, and new utilities including security, data, and telecommunication systems.
- Office interior design and FF&E balanced different department needs for privacy and security. Common spaces are located around the core, including private huddle rooms, meeting spaces, kitchens, pantries, and storage spaces.
- Integrated design process with consultants facilitated complex MEP upgrades in the historic structure that gained approval from the West Virginia SHPO.
- PWWG engaged government administration, management, and facilities staff and helped define needs and evaluate options in everything from floor layout to amenities and phasing, using 3D models.
- **Analysis of four existing elevators, included validating removal of one car to provide a mechanical shaft and revising one car to service elevator use with separate controls. Existing cars received new finishes.**
- **Added one new machine room-less service elevator in Loading Pavilion (KONE)**

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

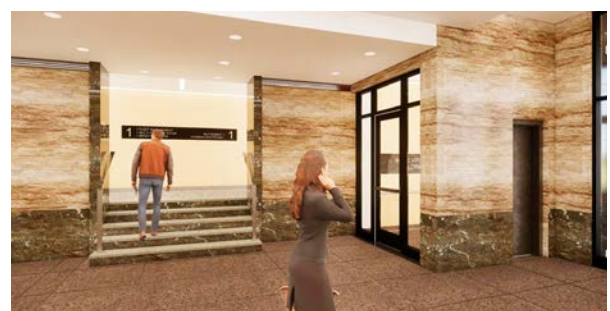
Services Division

304.352.5532

William.D.Barry@wv.gov



Design Award Winner



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.

Original building elevator cabs and equipment were modernized to gear-less, overhead electric traction type (West Virginia Elevator) and new vertical platform lift was added to accommodate accessibility from Lobby to main level (Graventa, Genesis).

CLIENT: Dept of General Services, State of West Virginia

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

COST: Confidential

COMPLETION: 2024 (est.)

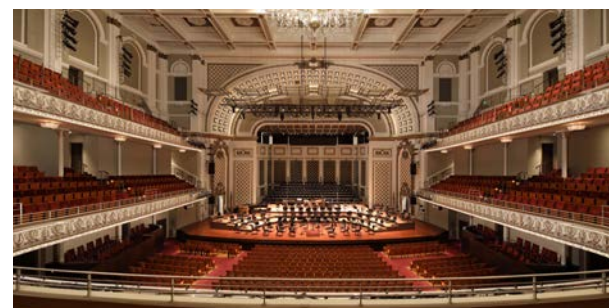
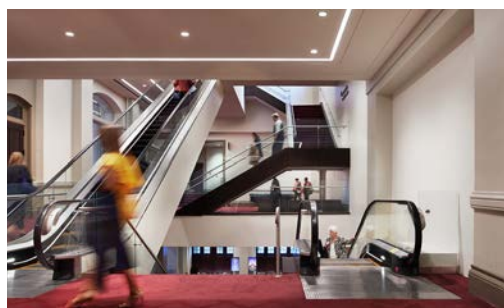
FIRM RESPONSIBILITY:

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

REFERENCE:

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

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cincinnati music hall : cincinnati, oh

revitalization achieves elegant form + exquisite function

PWWG was Lead Architect for the renovation of this historic concert theater, the city's cultural crown jewel, and one of the top acoustically performing multi-function theater venues in the world. Music Hall is home to Cincinnati's Symphony Orchestra, Pops Orchestra, Opera, Ballet, and the May Festival. The building was on the National Trust's list of "America's Most Endangered Historic Places," and had not had a significant upgrade in more than 50 years. PWWG worked with the city, a large stakeholder group, and a team of national experts in all areas of theater design to craft a renovation that secures the institution's and the building's legacy for generations to come, enhances the overall experience for audiences and performers, and makes operations efficient and economical.

This major renovation added two new machine room-less traction elevators (Fujitec). passenger elevators in the structure's south hall, and the southernmost entrance now serves as the venue's primary accessible entrance. The elevators stop at every floor -- including the ballroom. In the past, Music Hall staff used a freight elevator to get people in wheelchairs to the ballroom.

The existing elevator in the auditorium north hallway remained to help people access the three floors of the auditorium, but a rear door was added to give more convenient access to the new rehearsal room in the north wing.

A small lift was also added to improve access to auditorium seating at the orchestra level.

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

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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

- **There was no existing elevator in Oglebay Hall—new shaft was inserted into the existing building to accommodate a new 4-stop, gear-less traction elevator (KONE).** Intensive mechanical systems were also integrated into the building utilizing the existing attic and ventilation chimneys avoiding any impact on the building exterior.
- 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:

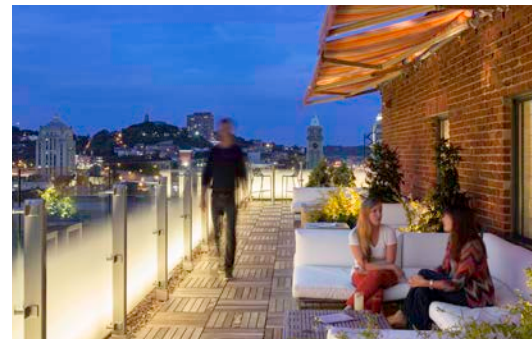
Programming
Architectural Design
Contract Documents
Contract Administration

REFERENCE:

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



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21c museum hotel cincinnati : cincinnati, oh

catalyzing economic + cultural rejuvenation

This 100-year-old 10-story 156-room former hotel in the heart of downtown Cincinnati required extensive exterior rehabilitation and reconfiguration of all interior spaces including new systems, elevators, and infrastructure to house a 21st century program of guest rooms, meeting and conference rooms, spa, rooftop lounge, and a signature restaurant.

Elevator upgrades included the following scope of work: Removed 1 elevator from an existing bank of 3 infilled openings at each level and added new masonry hoistway wall for 12 floors. For the remaining 2 elevators, PWWG replaced all equipment, stripped the cabs down to just the platform and rebuilt with new custom finishes (commissioned mirror art pieces) and controls. Thyssen-Krupp electric traction passenger and freight elevators and Savaria V-1504 platform lift.

PWWG also reworked equipment rooms to comply with latest code requirements, e.g. installing a 2 hour rated wall. In addition, we replaced an existing manually operated corner post freight elevator with new service rated elevator (front opening only). The building is listed on the National Register of Historic Places.

CLIENT: 3CDC & 21c

SIZE: 159,000 sf

COST: \$28M

COMPLETION: 2012

FIRM RESPONSIBILITY:

Forensic Investigation
Redevelopment Concept
Architectural Design
Contract Documents
Contract Administration

REFERENCE

Sarah Robbins, COO, 21c
sr@21chotels.com

★ Design Award Winner

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union trust building : pittsburgh, pa

neglected icon to amenity-rich commercial center

The Flemish-gothic-style structure ranks among the city's most architecturally significant buildings and is listed on the National Register of Historic Places. In recent years the building was largely unoccupied. PWVG partnered with Elkus Manfredi Architects for this restoration of the landmark's ornate exterior and interior. The project transformed Union Trust into a Class-A, LEED-certified center of high-tech innovation, collaborative co-working, and entrepreneurship in the city's burgeoning downtown, with 40,000 sf of ground-floor retail and restaurant space open to the public.

- All New Building HVAC & Electrical Systems
- **Installed 12 New Passenger & Freight machine room-less traction elevators (Otis, Gen-2), front and rear opening and vertical platform lifts**
- Created a 175-Space Underground Garage
- Re-imagined the 11-Story Atrium Lobby Featuring a Tiffany-Inspired Stained Glass Dome
- Custom Designed Hand-Tufted Carpet for Common Corridors
- Installed New Glass Tenant Entries
- Extensive Exterior Restoration

CLIENT: The Davis Companies

SIZE: 517,000 sf

COST: \$36M

COMPLETION: 2016

FIRM RESPONSIBILITY:

Forensic Investigation
Architectural Design,
including Structural Changes
Parking Garage Design
Contract Documents
Contract Administration

REFERENCE

Chris Lasky, Vice President
clasky@thedaviscompanies.com

 LEED Silver Certified

 Design Award Winner



Robinson Grand Performing Arts Center, Clarksburg, WV

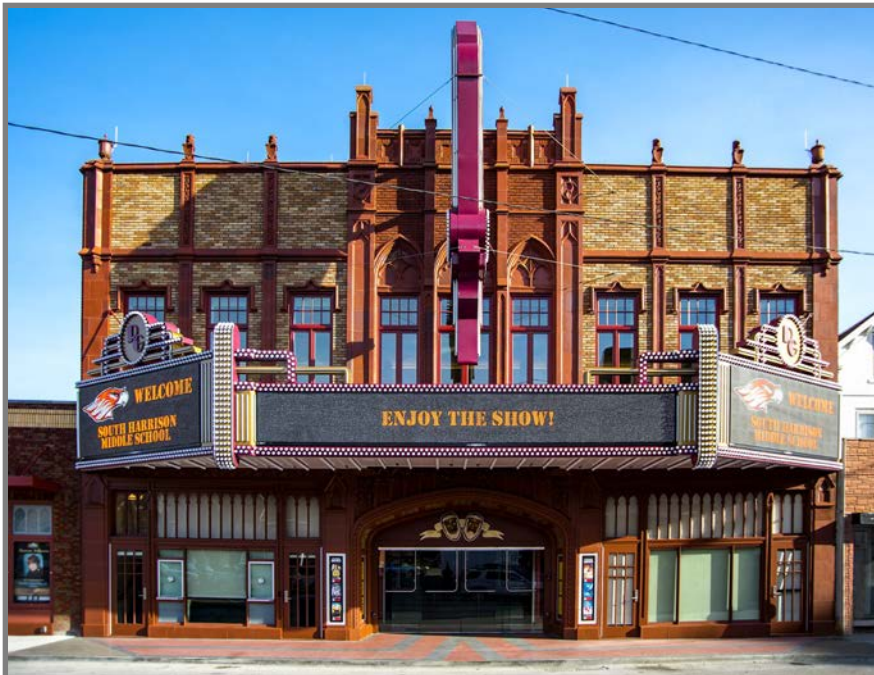
Renovations & Additions Area: 45,000 ft²

Construction Cost: \$17,000,000

EPAct Qualified renovations resulted in over a 50% reduction in energy over ASHRAE 90.1-2007 standards and an EUI below the national medium.

Services Provided:

- Study/Evaluation
- HVAC Renovations
- Fire Protection
- Electrical Renovations
- Emergency Generator
- Lighting Upgrades
- 3D Scanning
- Elevators/ADA



The historic Robinson Grand Theatre was originally built in 1913 and eventually closed to the public in the year 2000. When the City of Clarksburg purchased the building in 2014, extensive renovations were needed to re-open the theatre. **ZDS** provided the engineering planning and evaluation and the engineering design, and 3D Scan-to-BIM. Includes all **NEW** HVAC/Electrical/Plumbing/FP upgrades and elevators for the 45,000 ft² building. 3D-Scan-to-BIM of the existing facility was invaluable to develop the comprehensive existing conditions. Now called the **Robinson Grand Performing Arts Center**, this beautiful award winning historic theatre has been brought completely back to life!

Resurrection through adaptive reuse brings out the best the city of Clarksburg has to offer through the Robinson Grand Performing Arts Center.

University of Charleston

The Russell and Martha Wehrle Innovation Center



Construction Cost:
\$17,000,000



ZDS evaluated the University of Charleston's existing Eddie King Gym and adjacent Gorman Hall Mechanical and Electrical systems' infrastructure while using 3D scanning to capture "built conditions." The evaluation findings and recommendations were presented to UC before beginning the design phase of the proposed project to make decisions on phasing the project since the needs exceeded the available current funds. The Project consisted of major renovations to the Gym to meet NCAA competition requirements, interconnection/reconnection of MEP systems impacting the Gorman Hall facility, and a 30,000 SF addition to the front of the facility known as the Russell and Martha Wehrle Innovation Center, **including a new elevator**. The facility has classrooms, offices, flexible meeting areas, and a large two-story Innovation Center space. Mechanical and Electrical work includes new chiller and 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.

Gary Boyd, Director of Facilities
University of Charleston (304) 357-4871



Engineering for State & Local Government Facilities

ZDS engineering project experience includes facilities registered as official Historic Buildings



WVDHHR hired ZDS to engineer the upgrades for three historic hospital facilities in three separate locations. ZDS successfully completed the projects while meeting the requirements of the State Historic Preservation Office (SHPO).



Renovations included HVAC, fire safety, energy efficient lighting, plumbing, indoor air quality and electrical power engineering.



Engineering for Commercial Facilities

ZDS project experience includes a wide variety of commercial buildings — office, retail, judicial, banking, dining, technical and other facility types.

World Trade Center, MD



West Union Bank

Bank One/Chase Tower



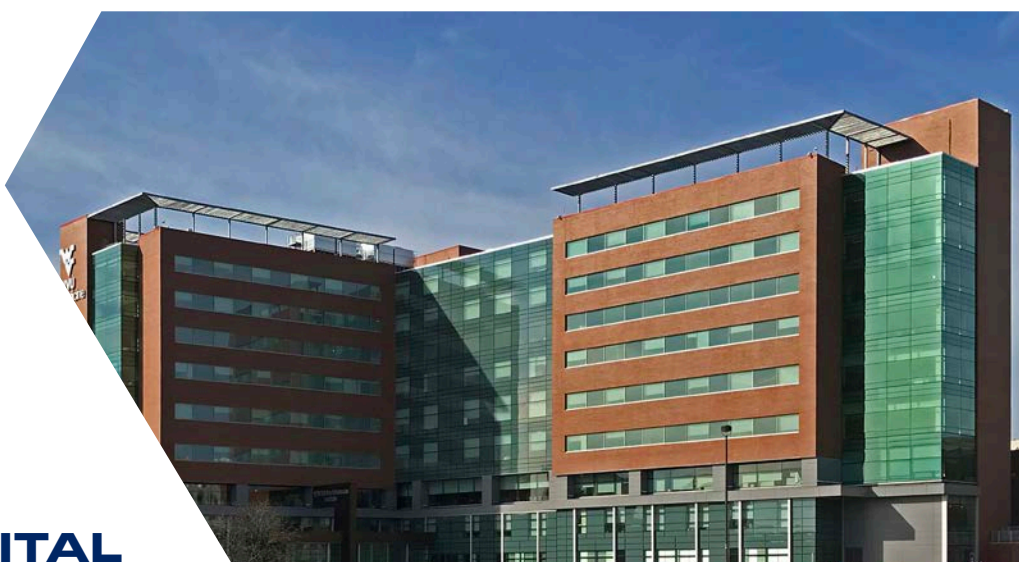
General Motors Corp.

Kanawha County Judicial Bldg.



Mercer County Courthouse Annex





J.W. RUBY MEMORIAL HOSPITAL

\$280M ADDITION & EXPANSION

PROJECT VISION & BACKGROUND

The growth of practice and necessary expansion of the J.W. Ruby Memorial Hospital is the result of WVU Medicine's dedication to serving the healthcare needs of its patients. This growth required the addition of two, 10-story towers to the original hospital, along with renovations to the existing entry complex, and connections between existing departments within the hospital. The first tower added 235,000 square feet, 139 beds, a trauma care unit, a neonatal intensive care department, and expanded the emergency department. The second tower added 80,000 square feet and a bank of elevators, and it functions primarily as a connector between the various wings of the facility.

STRUCTURAL SOLUTIONS

The structural systems for the two towers, the other additions, and the infill were all designed and constructed with structural steel composite framing and composite concrete floor slabs. Lateral load resistance is provided by braced steel frames. Connections back to the original hospital were all coordinated with the General Contractor to expedite construction. The field and expansion joints were located at the added wings to isolate issues with differential movement.

AES also provided the supplemental framing for specialized equipment throughout the facility and assisted with coordination of prefabricated MEP systems. The structures are supported on shallow conventional foundations bearing on bedrock directly below the lowest level of the towers.

TAKEAWAYS

These extremely complicated additions were carefully coordinated so as to not interfere with the operation of the existing facility and to integrate into the hospital complex in ways that resulted in much-improved patient and caregiver experiences. This expanded medical facility provides a 33% increase in hospital capacity and significantly improves care for trauma patients and infants.



A wide-angle photograph of the WVU Medicine Children's Hospital building. The building is a large, modern structure with multiple wings. The central tower is the most prominent, featuring a colorful, multi-colored facade with a grid of windows. To the left, there are other wings with brick and glass facades. In the foreground, there is a large parking lot filled with cars, and a grassy area with a sidewalk. The sky is clear and blue.

WVU MEDICINE CHILDREN'S HOSPITAL

\$215M CONSTRUCTION

PROJECT VISION & BACKGROUND

Initiated in 2017 due to the rising demand for pediatric and specialty services, this hospital aims to revolutionize healthcare for children and women in the region. Boasting a larger care team, a top-notch pediatric emergency department, the state's only Level IV neonatal intensive care unit, and a world-class Birthing Center, this facility was designed with evidence-based principles to provide a healing environment, ensuring a comfortable space for patients and faculty. Apart from the Birthing Center, the hospital includes four Centers of Excellence, focusing on Blood Disorders and Cancer, Critical Care and Trauma, a Heart Center with cardiac surgery and ECMO capabilities, and Neuroscience. Additional features comprise a Pediatric Intensive Care Unit, Cardiac Intensive Care Unit, Neonatal Intensive Care Unit, operating rooms, advanced pediatric imaging, and various labs. The project represents a collective effort, with many professionals and donors coming together to make it a reality.

STRUCTURAL SOLUTIONS

AES provided comprehensive structural engineering support for this 9-story, 150-bed hospital tower with an attached 3-story medical office building featuring a dedicated emergency department. The structures were conventionally framed with steel supporting composite concrete floor slabs and roofs. The main tower's rooftop included a helipad and cooling towers. AES also designed braced frame cores for lateral stability and shallow spread footings on bedrock with rock anchors for foundations. Challenges included dealing with expansive, pyritic materials in the northern half of the site and designing a unique "V" column to support the front end of the main hospital tower. AES also created enclosed walkway bridges connecting to existing buildings and supported various medical equipment and other structures on the site. To accelerate the construction schedule, early foundation and structural steel drawings were issued.

TAKEAWAYS

Due to our proactive involvement and close coordination with the entire team throughout design and construction, our team was able to successfully bring this architectural vision to life. Our heavy involvement and coordination with the steel detailer throughout the process added further value to the delivery of the project.

bringing architectural visions to *life* // aespi.com

| project approach +

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GOETTEL

project approach +



project approach

The advent of solid-state control systems and ADA legislation, both of which occurred at about the same time, triggered the need for many elevator retrofits dating back to the 1990s. Today, security and access control have become another key component for integration into vertical transportation. PWWG has done our share of work that touches on all these aspects. Our firm has been responsible for dedicated elevator projects (both new and modernization) and new elevator and modernization projects embedded within larger building rehabilitation projects, many of which are historic structures.

Our experience in this type of work dates to the 1980s when the firm modernized all the elevators in the Pennsylvania Labor and Industry Building, a high-rise structure in Harrisburg. Since that time, PWWG has also been responsible for other dedicated elevator projects ranging from the smallest personal (residential) elevators to large, expressive elevator additions such as the additional Landside and Airside elevators at Pittsburgh International Airport as well as new or modernized elevators in high-rise construction. We have experience in all types of low-rise elevator systems including the contemporary alternatives to traditional hydraulic systems.

programming for renovation

Programming for the renovation of existing spaces involves bringing together “what you want”—the program—with “what you have”—the existing building. This involves two initially independent efforts that must be brought together to achieve the desired program within the constraints of the existing building. The same holds true for planning the work to modernize and upgrade elevators.

project management and schedule

A major portion of PWWG's responsibility will be team management. We will utilize a process of “orchestrated inclusiveness” to undertake the work. This means we will focus on having all the required players at the table during the evaluation and design, but the output to General Services will be a single unified voice. This will be accomplished with a program of regularly scheduled working meetings.

project approach +



methodology and schedule

We propose an approach to planning the work that follows a 3-step methodology and has been found to be very reliable. Using this methodology and working closely with the General Services staff.

FACT FINDING

We propose to begin with simultaneous reviews of physical conditions in the building, (including Code, Accessibility, and life cycle assessments of each elevator), and a needs review for each use scheduled or anticipated for each building.

A thorough assessment of existing physical conditions will identify those elevator systems and building components that have continuing value, those that are near the end of their service lives, and those that are obsolete for pedagogical or Code or other reasons. Conceptual estimating begins at this stage to put costs on aspects of work that will be necessary to any plan for renovations.

DEVELOP AND CONSIDER ALTERNATIVES

When the 'facts' of the project are in focus, including physical facts, the facts of program needs and goals, and the facts of budget realities, it is useful to develop, compare, and contrast alternative approaches to design.

We generally develop several options to a design for improvements. In the case of this project, options will be more limited and concentrate on the cost/benefit of various repair and replacement options for elevator components. The work moves to the next phase when your staff is persuaded that an approach has been identified that best supports your programming, is affordable, and can be delivered in realistic phases.

REFINEMENT OF A PREFERRED ALTERNATIVE

We will prepare a document that presents a concise plan for the action to be taken for each elevator included in the project. The recommendations may range from modest repairs to expensive replacements. It will include drawings and narratives describing programs of work that are prioritized, with cost estimates, and schedules for design and construction of the work in phases. The phases will be organized in conjunction with need, legislative session, special events at the capitol complex and efficiency of executing the work to minimize unnecessary cost.



project approach +

experience with building forensics

Many of our commissions have included forensic investigations, and some have begun forensic studies to verify conditions and establish needed scopes of repair. We have provided services as forensic specialists to the Pennsylvania State System of Higher Education and the Pennsylvania Historical and Museum Commission under term contracts. Recent projects that have begun with forensic investigation include work at the University of Pittsburgh, Carnegie Mellon University, and the Allegheny County Courthouse. We are currently working on the exterior restoration of the last surviving, original academic building of the University of Pittsburgh campus in Oakland, PA – Thaw Hall, c.1910. This work involved a formal forensic phase to carefully document existing conditions for repair and replacement of historical details. Careful examination, data collection, and selective demolition revealed conditions not documented in the building's original drawings or details that were lost through successive renovations.

experience renovating historic structures

Restoration has been a primary focus at PWWG for more than 30 years.

Some of our projects are 'pure' restorations with the single purpose of the preservation of historic fabric. Many of our projects have included an historic 'component', as when a façade is restored as part of a building renovation. Most of our projects have involved both restoration and the solution of remediating persistent technical problems. The technical problems often date to the original construction.

Repeat clients include the PA Department of General Services and the Pennsylvania Historical and Museum Commission, the State of West Virginia, West Virginia University, West Liberty University, the Pittsburgh Cultural Trust, and Carnegie Mellon University and more.

Our historic projects include rehabilitations at two state capitols (WV and PA), other buildings for state governments, several historic projects on college campuses (WVU, West Liberty, Carnegie Mellon, Clarion, Pitt), residential conversions and other structures for business and hotel use. Our portfolio of historic projects includes buildings in Cincinnati, Pittsburgh, Charleston, Harrisburg, Morgantown, and several rural locations in the region. Among our currently active projects are historic structures, either on the National Register or with determinations of eligibility.

Through PWWG's 15+ years of continuous service to the Pennsylvania Historical and Museum Commission (PHMC), we have undertaken over 120 task order assignments at historic museum sites throughout PA, probably half of which were specifically for a historic structure.

project approach +



specialized elevator consulting

Decisions on required elevator repairs and the resulting costs have often been developed by the elevator manufacturers and service companies who perform the work. For your project, we included an independent elevator consultant to assist us in these evaluations and decisions. Steve Kinnaman will focus on physical evaluation of the components, both mechanical and solid-state as well as performance of the elevators to provide meaningful data to evaluate the benefit of various system improvements.

life safety and code compliance in west virginia

From our successful experience with multiple projects in West Virginia, PWVG takes pride in having a thorough working knowledge of the codes having jurisdiction in the state, which can pay dividends when addressing issues with the Fire Marshal's office. We fully understand and have experience addressing the unique conditions in WV where both NFPA and the IBC can apply on a particular issue thus requiring an evaluation of both.

elevator cab design

PWVG has experience with several projects that involve custom design of the elevator cab interiors. We have worked directly with specialty contractors who work almost exclusively on cab interiors. A significant number of projects, including five 21c Museum Hotels, have involved custom cab design because the manufacturer's standard cab designs were not able to achieve the design intent.

project team

Many projects require multi-disciplinary expertise, including structural and MEP/FP engineering based on the scope of work and a variety of project conditions. We have assembled a team of experts, and specific to building elevator design to provide a "turn-key" approach to assessment, evaluation, budgeting, recommendation and execution.

experience with elevator contractors in wv

The competition among elevator contractors is limited, with a relatively small number of "players" in the market. As a result, competition may not be as strong as it is in other trades. Performance — especially in terms of schedule compliance — can be inconsistent. PWVG has relevant experience with the performance of contractors in the West Virginia market that may benefit the General Services project.

working in occupied buildings

Work in occupied buildings involves special challenges not only to minimize disruption to the occupants of the building but also to maintain life safety systems in operation. This needs to be addressed by careful planning that incorporates appropriate temporary protection measures built into the contract documents. PWVG has successfully completed several projects in occupied buildings. In addition to the temporary protections, we also have had to impose work restrictions relative to noise, worker access, and material deliveries.

We will work closely with your staff to carefully define the “rules of the game” for the contractor including work hours, work areas, noise restrictions, dust control, access and egress routes, life safety systems operation, and temporary protection measures. These requirements may vary by location and scope of work. All these requirements are clearly defined in the front end of the specifications so that bidders understand the work conditions.

phased construction experience

The nature of PWVG’s practice has led us to clients and projects that demand phasing considerations in which an orchestrated sequence of activities must occur. This has manifest itself in a number of ways. The most common has been the need to conform to the academic calendar of higher education. In other instances, it has involved phasing to get projects to ramp up in the right order to align with funding opportunities. Another example is the need to phase work because the completion of Project “A” is mandated for Project “B”. One example is the Infrastructure Upgrade at the WVU Evansdale Campus. PWVG has sequenced

the preparation of bid packages to advance the construction of certain utilities ahead of others in order for them to be in place and available for new construction under a different contract. Another example is the new science building at Indiana University, PA. A portion of an existing building was demolished to construct the new building, while a portion of the existing building remained occupied until construction was complete, and occupants could move into the new building. The final phase was to demolish the remainder of the existing building.

staff continuity on wv capitol complex projects

The senior member of PWVG’s team assigned to your project, Joe Filar, Senior Associate, Project Manager, acted in the same capacity for the WV Building 3 Renovations and is currently acting as Senior Associate, PM for restoration of Building 4 at the WV State Capitol Complex. Benefits to General Services include familiarity with and firsthand knowledge of the Capitol Complex itself, a history of good working relationships with your staff and administration, and a solid understanding of and experience with the standards and procedures utilized by General Services.



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
☒ Interior ☒ Landscaping ☒ 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 to interns SD or CA experience.

Principal in charge: AW (Initials)
Responsibilities: ☒ Client contract ☒ Principal Client Contact/Manager thru project
☒ Additional services contracts ☒ Consultant contract ☒ Attend all primary client design meetings ☒ Attend selected client design meetings ☒ Principal Designer ☒ Selected design role:
☒ SD/DD design presentations - role ☒ SD/DD 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 contract ☒ Consultant management/review of drawings ☒ 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

Quality Management
Project Administration and Design

PWWG 2012

OWNERCIENT DESIGN, GOALS, CONST. BUDGET, SCHEDULE, AND DELIVERY METHOD

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

☒ **Contract:** Create project contact list

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

☒ **Determine what design/data information is required and how information is to be gathered:**
☒ 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 ☒ Biotings/Geotech report ☒ Hazmat testing
☒ Phase Environmental ☒ Existing Building Drawings ☒ Physical Need Assessment (HLD)
☒ 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. PHEA:

☒ **Existing Base Drawings to be created by PWWG:** ☒ Not required (see IBC requirements or AIAH) ☒

☒ **Site:** ☒ Building exterior ☒ Building interior ☒ HABS quality level. For Demolition purposes

☒ **Determine relevant Codes, regulations, owner specification AIAH's:**
☒ Preliminary Code Identification - ☒ ICC 2009 ☒ Opt-out municipality (L&I commercial review)

☒ **Municipality reviewer:**
☒ AIAA ☒ Planning ☒ Planning Commission ☒ Historic Review Commission ☒ AIAH (Authority having jurisdiction) Indiana Item for stormwater ☒ Funder requirements ☒ Community ☒ Other

PROJECT PHASE CHECKLISTS PREDESIGN

Quality Management
Project Administration and Design

PWWG 2012

CONSULTANT COMMUNICATION AND COORDINATION

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

☒ **Owner presentation of design and/or document review:** ☒ 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 of Arch: MEP: Total:
Est. Cost per SF: New Construction: Arch: MEP: Total:
Renovation: Arch: MEP: Total:
Site: 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 Period: 7/2019/2020
Est. Const. Period: 11/2019 - 1/2021 (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:

PROJECT PHASE CHECKLISTS PREDESIGN

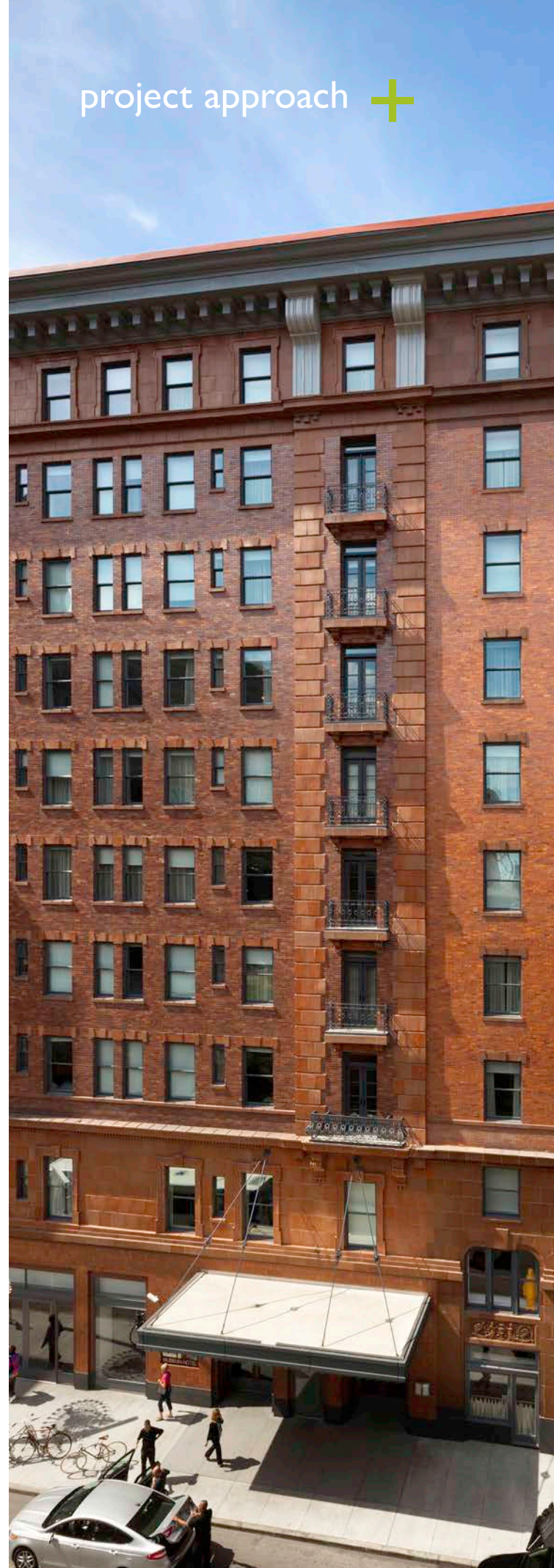
Examples of QA/QC forms from a recent project

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.



| references +

PERFIDO
WEISKOPF
WAGSTAFF +
GOETTEL

references +

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REPORT SUMMARY

Owner:	State of West Virginia Department of Administration General Services Division
Owner's Representative:	Micheal Q. Evans, Architect
Architect:	Perfido Weiskopf Wagstaff + Goettel
Elevator Consultant:	SKA Elevator Consulting Group
Structural Engineering:	Moment Engineering, Inc.
Mechanical / Electrical/ Plumbing / Fire Protection Engineering:	Tower Engineering

GENERAL REPORT SCOPE

This report contains the evaluations of existing conditions and recommendations for upgrades for seventeen (17) elevators and two (2) wheelchair lifts as listed on the WV Department of Administration document GSD14601 Attachment A. The buildings are located at the Capital Complex, Charleston, Beckley and Parkersburg.

EVALUATION PROCESS AND SUMMARY

Each elevator site was initially visited by Steve Kinnaman of SKA who provided the lead evaluations and recommendations. SKA was accompanied by PWWG for some elevators. An Executive Summary of SKA's evaluations and recommendations is provided on page two (2) of the SKA report.

Following SKA's initial findings, staff from Tower Engineering, Moment Engineering, and PWWG visited specific elevators identified in the SKA report for the associated MEP services or general construction repair items. Tower and Moment have provided their own, more detailed evaluation and recommendations including costs.

The largest scope of recommended work involves elevator equipment upgrades. The associated supporting MEP and architectural/ structural work is of a smaller scope. Various contractual arrangements could be considered for implementing the upgrades including, but not limited to:

- One General Construction contract: This costs a little more as the GC then has a mark-up on the elevator portion. This does however have a single point of contact and responsibility.
- Two separate contracts: consisting of a General Contract (including MEP) and the Elevator Contract.
- "Turn Key" by the elevator contractor: This might be less expensive but the elevator companies typically are reluctant to do this as it's not their traditional way of doing business and don't have the best expertise in handling other subs, such as waterproofing.

END OF REPORT SUMMARY

ELEVATOR EQUIPMENT DEFINITIONS & TERMINOLOGY

#	Item	Definition
1	Hydraulic Pump & Motor	The pump forces the oil from the reservoir tank into the jack assembly. The valve controls the flow of oil.
2	Hydraulic Jack Assembly	The assembly consists of a cylinder and a piston. Oil enters the cylinder and pushes the piston to raise the elevator.
3	Hoist Machine/Motor	A hoist machine (also called a traction machine) provides the means to raise and lower the elevator car. The motor turns the machine.
4	Motor Drive	This is how the AC current is converted to DC current which is required to drive the hoist motors. Known as a motor generator in some applications.
5	Controller	A car controller regulates starting, stopping, door operation and assigns registered car and corridor calls to car.
6	Selectors	The selector monitors the position of the car in the hoistway and transmits this information to the car controller.
7	Governor	Governors monitor the speed of the elevator cars and actuate the car safety in case of an over speed condition in the down direction.
8	Safeties	The car safety provides emergency stopping of the elevator car in the event of an over speed condition.
9	Hoist Ropes	Hoist ropes provide the connection between the elevator car and the counterweight, receiving their hoisting power from the machine.
10	Rope Grippers	The elevator code now requires protection from unintended movement of the elevator.
11	Governor Rope	Governor ropes provide a link between the over speed governor and the car safeties.
12	Governor Pit Sheave	The pit sheave guides the governor rope at the bottom of the hoistway in the pit.
13	Buffers	Buffers provide protection for a reduced impact in the event that the car or counterweight overtravels into the pit of the hoistway.
14	Car Frame & Platform (Sling)	The car sling consists of steel channels that support the platform onto which the car enclosure is installed.
15	Guide Rails	Guide rails guide the car and counterweight vertically within the hoistway.
16	Guide Shoe Assemblies	Roller Guides act as the contacting points of the elevator car sling and the guide rails.
17	Counterweight	The counterweight assembly provides the weight required for the counterbalance for the car. The counterweight is on the other end of the hoist rope attached to the elevator car.
18	Hoistway Entrance Frame & Sills	The enclosure around each elevator door opening.
19	Hoistway Door Tracks, Hangers, & Rollers	The door tracks are the horizontal members at each elevator hoistway opening. The hangers connect the door rollers to the doors which ride on the tracks.
20	Hoistway Doors	These are the door panels which are a part of the elevator openings at each level.
21	Hoistway Door Closers & Inter-locks	Elevator hoistway doors are required by Code to be self-closing and locking.
22	Hoistway Wiring	This is all the wiring in the hoistway and machine room that interconnects the components of the entire system
23	Car Doors	These are the doors on the inside of the elevator cab.
24	Car Door Operators	The car door operators are located on top of the elevator cab. The operator powers the car doors which engage the individual hoistway doors at each opening.
25	Car Door Protective Device	This is the device on the leading edge of each car door panel that detects obstruction and either holds the doors in the open position or will re-open the car doors if closing.
26	Car Enclosures (Interiors)	This is the inside of the elevator cars or the cabs.
27	Car Operating Panel	These are the panels on the front returns of each elevator cab where the floor buttons are located.
28	Car Position Indicator	This is the display in each elevator that indicates what floor you are at or passing.
29	Hall Push Button Fixtures	These are the fixtures located at each floor in the building that are used to call the elevators.
30	Direction Lanterns	Lanterns are required in the elevator car door jambs or above the hoistway entrance to meet

MAINTENANCE EVALUATION

MAINTENANCE CONTRACT

Typically the existing maintenance contract is cancelled at the time of the award of the elevator modernization program and the successful elevator contractor will enter into a modified program that recognizes that some elevators are out of service. A new 5-year contract price effective at the completion of the modernization program is also negotiated at the time of the modernization bid.

MAINTENANCE CRITERION

The performance of your elevator maintenance contractor was evaluated. A rating is determined based upon the industry's average level of performance. Our evaluation takes into consideration the equipment's age and condition and is based on the following criteria:

- ☐ Cleanliness of Equipment
- ☐ Lubrication of Equipment
- ☐ Performance of Equipment
- ☐ Noise Level of Equipment
- ☐ Wear of Individual Components
- ☐ Workmanship of Maintenance Contractor

Based on the above criteria, our evaluation of the vertical transportation equipment, machine room, pit and hoistway revealed that the quality of maintenance being performed by KONE Elevator Company is average and what we would expect to see on a public bid project of governmental buildings. Individual areas of concern will be addressed later in the report.

MAINTENANCE RECORDS

Maintenance and Fire Service logs records were not found in all of the machine rooms, as required by code.

MAINTENANCE EVALUATION

In that any elevator maintenance program is an ongoing process rather than a single event there will no doubt be areas pointed out that need attention. However, the audit provides a snapshot of the overall condition which is generally indicative of the maintenance program and the condition of the equipment in general.

It is also documented that as equipment becomes older more time is needed and devoted to repairs rather than preventative maintenance.

Overall, it is our opinion that the level of ongoing maintenance for the facilities reviewed is considered average in all areas. Given the overall age of the equipment and that the incumbent elevator maintenance was most likely the low bidder the overall condition is somewhat better than we would have expected. Each facility had its own

GRADING CRITERIA – DEFINITIONS & TERMINOLOGY

Maintenance Contractor's Performance

<u>Grading</u>	<u>Definition</u>
Excellent:	Maintenance and performance that is well above industry standard. With this rating no improvement is needed. Your maintenance contractor is exceeding contractual obligations thereby substantially increasing the safety, performance and life of the vertical transportation equipment.
Above Average:	Maintenance and performance that is above industry standard. With this rating very little improvement is needed. Your maintenance contractor is meeting and in some cases exceeding contractual obligations. The vertical transportation equipment is benefited by the degree of attention.
Average (Good):	Maintenance and performance that is at the industry standard. With this rating some improvement is desired.
Below Average (Fair):	Maintenance and performance that is below industry standard. With this rating much improvement is required and justified. Overall, your maintenance contractor is not fulfilling the terms of the maintenance contract. This level of service will lessen the safety, performance and life of the equipment.
Poor:	Maintenance and performance that is well below industry standard. A substantial level of improvement is mandatory. Your maintenance contractor's performance is unacceptable and should be given a 30-days' notice to satisfy contractual obligations. Continued poor maintenance will jeopardize the integrity of the equipment.

Equipment's Operation and Condition

<u>Grading</u>	<u>Definition</u>
Good:	The equipment's operation and performance is proficient and operating as intended. No improvement needed; this level needs to be maintained.
Fair:	The equipment's operation and performance is adequate; however, minor adjustment and attention is suggested.
Poor:	The equipment's operation and performance is well below capacity and requires immediate corrective action. (NOTE: In some cases, a "Poor" rating is assigned

ESTIMATED USEFUL LIFE (YEARS)

The remaining useful life values of the equipment are based on the projected availability of spare parts and the quality of preventative maintenance being performed on the equipment. A strong effort to properly maintain vertical transportation equipment greatly increases the remaining useful life. Likewise, poorly maintained equipment will reduce the remaining useful life of the equipment.

<u>Component</u>	<u>Typical Life Expectancy</u>
Traction Machine	Typical life expectancy of a geared traction machine is around 25 - 30 years. Typical life expectancy of a gearless traction machine is around 50 – 60 years.
Motor Generator	Typical life expectancy of a motor generator is around 20 - 25 years.
Hydraulic Pump	Typical life expectancy of a pump unit is around 20 - 25 years.
Controller	Typical life expectancy of a controller is around 20 - 25 years.
Door Operator	Typical life expectancy of a door operator is around 15 - 20 years.
Hoistway Equipment	Typical life expectancy of the equipment located in the hoistway is around 20 - 25 years.
Car Signals	Typical life expectancy of car operating fixtures is around 10 - 15 years.
Hall Signals	Typical life expectancy of hall station fixtures is around 10 - 15 years.

INDIVIDUAL ELEVATOR ASSESSMENTS

In the following section each building will have individual sheets associated with each elevator that was assessed during this review.

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ELEVATOR ASSESSMENT AND RECOMMENDATIONS

A. GENERAL DATA AND COMMENTS

Bldg No.	Location	Elev No.	Machine	Type	Make	Speed (fpm)	Landings	Age (yrs)	Age since Modernization
7	Capital Complex	1	Hydraulic	Passenger	Otis	125	3	46	N/A

1. This elevator has been out of service since 2009. According to KONE, the elevator maintenance contractor, it is a result of a failed hydraulic jack unit.
2. Our experience is that a jack failure on this vintage equipment is not that uncommon. Elevator jack assemblies manufactured prior to 1972 had only a single plate welded to the bottom of the jack. With this condition any deterioration to that plate which is/was attributed to electrolysis would/could cause the oil to leak or escape from cylinder. Documented cases have shown the result of this leaking to be a slow and gradual lowering of the elevator to a more rapid descent.
3. After 1972 the national elevator code required that all hydraulic elevator jack assemblies have what is referred to as a double bulk-head construction which consisted of a defined construction of two plates on the bottom of the cylinder.
4. When the jack is replaced it will also be necessary to properly remediate the underground conditions surrounding the jack. Unfortunately the scope and magnitude of that work will not be able to be determined until the jack is pulled and the situation assessed.
5. Given the condition of the hydraulic jack, controller and all the non-code compliant signal fixtures, we believe this elevator should be replaced in its entirety retaining only the guide rails and possibly the entrance assemblies.

B. EQUIPMENT AND OPERATION

#	Item	Assessment	Grade	Recommendation	Comment
1	Hydraulic Pump & Motor	Could not test functionality. Old and worn out by age	Poor	Replace	
2	Hydraulic Jack Assembly	Current jack not functioning and, according to KONE Maintenance, cannot be repaired. Further investigation required	Poor	Replace. Remediation consultant shall assess existing condition once cylinder is pulled	Spoils taken from the underground hole will have to have Hazmat remediation due to oil contamination
3	Hoist Machine Motor	N/A			
4	Motor Drive	N/A			
5	Controller	Outdated contactor relay type. Many parts obsolete. Wiring diagrams are incomplete	Poor	Replace with new solid state type	Remarkable that this equipment is still in operation
6	Selectors	Worn	Poor	Replace	
7	Governor, Safeties, Ropes, etc. (typical traction items)	N/A			
8	Safeties	N/A			
9	Hoist Ropes	N/A			
10	Rope Grippers	N/A			

ELEVATOR ASSESSMENT AND RECOMMENDATIONS

#	Item	Assessment	Grade	Recommendation	Comment
28	Car Position Indicator	Outdated. Non code and non ADA compliant	Poor	Replace	
29	Hall Push Button Fixtures	Outdated. Non code and non ADA compliant	Poor	Replace	
30	Direction Lanterns	None installed. They are required by code		Provide new	Direction lanterns will be part of the new cab
31	Lobby Control Panels	None		Not required	

C. EMERGENCY AND SECURITY SYSTEM FEATURES

#	Item	Assessment	Recommendation	Comment
1	Fireman's Service	None present. Required by code	Provide new	This shall be an integral part of the new control and fixture systems
2	Emergency Power Operations	None provided	New battery power lowering system will be part of the new control system	Verify if emergency power generator power is available
3	Emergency Car Communication Device	Could not confirm functionality as the car is not in service	Provide new	New emergency phone is integral component of a new Car Operating Panel
4	Emergency Car Lighting	Could not confirm existence or functionality	Provide new	New emergency lighting is an integral component of a new Car Operating Panel
5	Security Operations and features	None observed	Verify requirements with WV	Security features such as card readers are easily incorporated into the new control system

D. EQUIPMENT ROOMS, HOISTWAY, AND PIT - GENERAL CONDITIONS AND CONSTRUCTION

#	Item	Assessment	Grade	Recommendation	Comment
1	Machine Room General Condition	Entry door not self-closing self-locking per code requirement	Poor	Provide new closer.	Room includes freight elevator controller
2	Machine Room Maintenance	Equipment painted but not very clean. No organization to spare parts	Average	Nothing at this time	The specification for the modernization will define requirements for painting, cleaning and organization
3	Hoistway General - Condition	Non-elevator equipment in the hoistway	Fair	None	We suspect foreign equipment (pipes) in the hoistway will be grandfathered so as to avoid major building renovation during the elevator modernization
4	Hoistway Maintenance	The hoistway needs a thorough cleaning from our limited view point	Fair	Clean and paint during modernization	
5	Pit General Condition	Could not be observed as elevator is resting on the buffers in the pit			
6	Pit Maintenance	Could not be observed as elevator is resting on the buffers in the pit			

Modernization and Upgrades to Capitol Complex Elevators
WV Department of Administration
ELEVATOR ASSESSMENT AND RECOMMENDATIONS

PHOTOS Building 7 - Car #1 - Passenger Elevator



Entrance at Basement



Outdated Controller



Partial Wiring Diagrams



Make-shift Wiring Repairs

END OF SECTION

10/10/2014