ZDS DESIGN/CONSULTING SERVICES

91 Smiley Drive
St. Albans, WV 25177

Phone: (304) 755-0075
Fax: (304) 755-0076

DATE: September 7, 2010

TO: Krista Ferrell
Department of Administration
WV Purchasing Division, Building 15
2019 Washington Street East
Charleston, WV 25305-0130

RFQ NO: GSD106430
PROJECT: A & E Services Capitol Complex Exterior Lighting

Qty:	Doc. No.	Doc. Date	Description	Action Code
4		9-8-10	Enclosed EOI for your review & consideration	J1-A

Action Codes

A - Action indicated on item transmitted	**F** - Furnish as corrected--Resubmittal required
B - For your information or use	**G** - Revise and resubmit
C - For signature and return to this office	**H** - Rejected
D - Furnish as submitted	**I** - For your approval
E - Furnish as corrected--Resubmittal not required	

1. **EOI # GSD106430 for the Capitol Complex Exterior Lighting. EOI Opening Date: 9/8/10**
EOI Opening Time: 1:30 pm

BY: Sherry Z. Powell

Mailed by ☐ UPS Next Day Air ☐ UPS Ground ☐ USA Priority Mail ☐ USA Mail
☒ Hand Delivery by SZP ☐ Hand Pick Up

COPIES TO: N/A

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RECEIVED
2010 SEP -8 AM 8:07
WV PURCHASING DIVISION

TRANSMITTAL LETTER

ZDS Design/Consulting Services is pleased and proud to submit this expression of interest and statement of qualifications for your consideration. **ZDS Design Consulting Services** personnel and team members have worked on nearly all buildings at the West Virginia Capitol Complex and understand the importance of the preservation of historical structures. There have been numerous improvements in lighting technology that will allow us to address energy savings without having a negative impact on the historical nature of the lighting. We believe we offer an excellent team for the proposed upgrades to the exterior lighting throughout the Capitol Complex.

The **ZDS** Team has professionals in all of the required disciplines to effectively execute the requirements of the project, including:

- **Historic Preservation Consultants**
- **Lighting Professionals**
- **Structural Engineers**
- **Electrical Engineers**
- **LEED Accredited Professionals**
- **ARRA funded project experience**

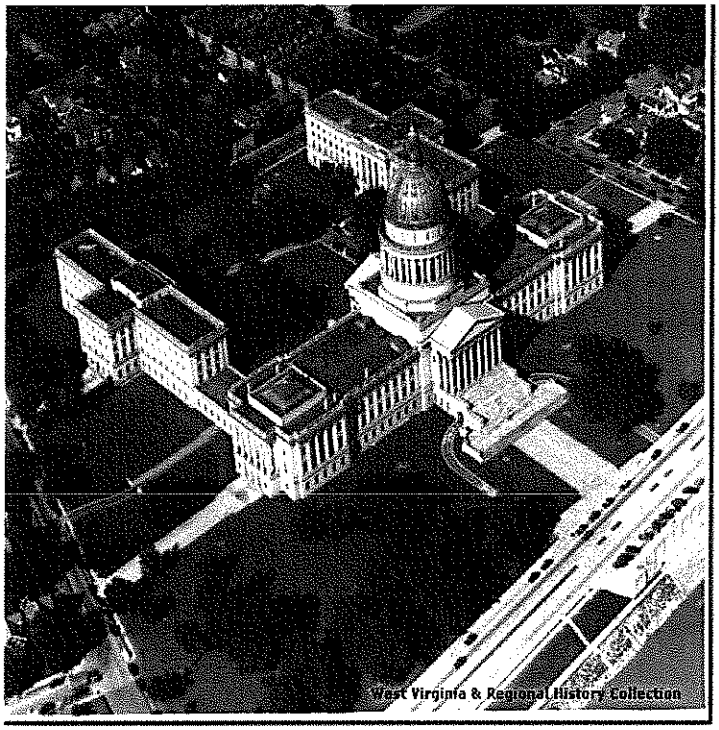
The **ZDS** Team is ready and capable to start on this Project immediately and has the expertise available to work with State personnel to develop a plan that will satisfy the illumination requirements as well as maximize energy savings. We understand the desire to utilize state-of-the-art technology to meet LEED guidelines and will strive to incorporate this technology while utilizing light fixtures that are complimentary to the period architecture.

ZDS recently visited the Capitol Complex to get an overview of the existing lighting. We noted that there are numerous pole top lights lining the walkways and sidewalks adjacent to surrounding streets, floodlights utilized for illumination of the Main building facade, well lights at selected sculptures and various other forms of lighting fixtures. While there, we also took note that there appear to be some issues with lighting at the covered entrances, porticos, and the Colonnade below the dome. It is not clear to us if this lighting is considered interior or is to be addressed by this RFQ. It would be beneficial to the overall lighting at the Capitol if addressed concurrently with the site lighting. Many electrical issues may be common and could be more cost effective if the entire exterior of the building is included.

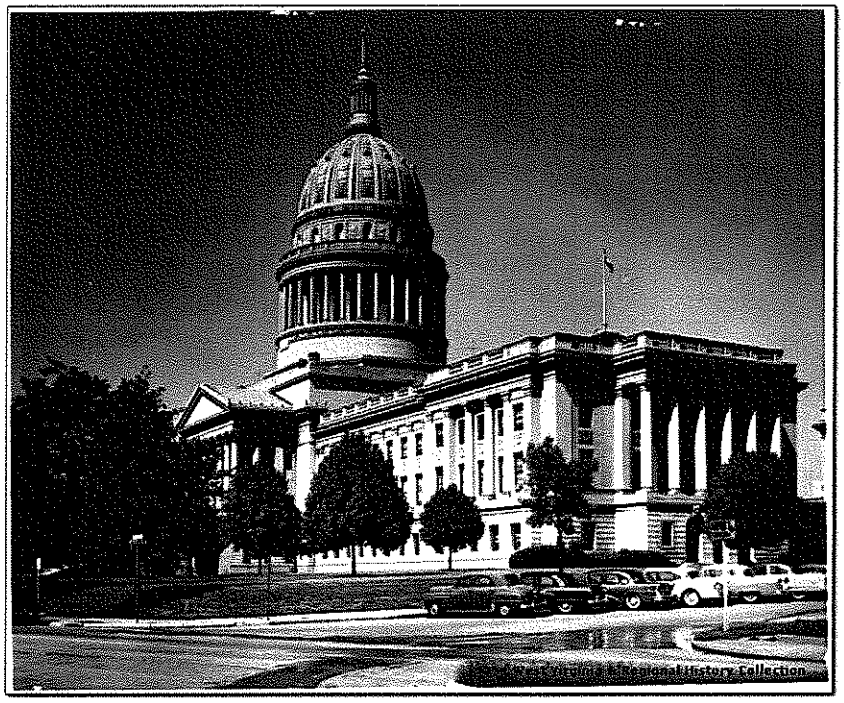
CAS Structural Engineering, Inc., a West Virginia Certified Disadvantaged Business Enterprise, is located in the Charleston, West Virginia area. CAS will provide any structural analysis and design that may be required for the project. Carol A. Stevens, PE, is the firm president and will be the structural engineer for this project. Ms. Stevens has over 19 years of experience with building structures in both West Virginia and Pennsylvania. Projects for CAS involving the West Virginia State Capitol Complex include: exploratory evaluation and design for corrections to the Capitol dome (during the gilding project), evaluation of existing conditions and structural design for renovations at the Governor's Mansion, evaluation and recommendations for the renovations to the Main Capitol Building facade, and Buildings #3/#5 central boiler plant structural design.

Michael Gioulis Historical Preservation Consultant, has a unique understanding of the Capitol Complex. His previous experience and research over the past 20 years serves the teams historical preservation consultant needs for the exterior lighting. The project will necessarily be a combination of goals and objectives. These will include the historic preservation goal of respecting the significant fabric and concepts of the historic building, complex and Cass Gilbert's designs. They will also include the historic aspects of other buildings and campus changes that have occurred, including building number 3, designed by Cass Gilbert Jr., Buildings 4, 5 and 6, later additions to the campus, and of course, the later Culture Center. All of these buildings and campus changes have resulted in landscaped campus and overall design impacts to the original Cass Gilbert Capitol and complex.

In addition to determining the significance of all these time periods of construction and their relationship to the original design, there is the need to meet 21st Century and beyond expectations for energy efficiency, safety, security, convenience and dramatic lighting of the buildings and complex. All of these must interact to achieve the objectives of highlighting the significance of the building and the complex especially the dome and providing a pleasant atmosphere.



The original plans for each of the phases will be consulted to ascertain any design intent of the original designer, Cass Gilbert, or any of the subsequent designers, Cass Gilbert Jr., etc. Documents and correspondence relating to these phases will also be consulted to determine if they are relevant to the understanding of the work. For example, the State Archives contains correspondence with Governor Homer Holt and Cass Gilbert Jr. in 1940 concerning the riverbank landscaping improvements. They also contain correspondence in 1940 concerning the dome lighting, lights and riverbank, and correspondence with GE regarding the same. These documents may shed light on the original design intent of these phases. In addition there are 1946 documents, and 1963 documents for lighting and the dome.



The original rendering by Cass Gilbert, drawings of the complex, or drawings of buildings, by Cass Gilbert and others may also prove valuable resources for research. And finally, historic photographs will also aid in determining the scope of the design. The work will not all be designed to copy or imitate the historic design, as there are considerations now that never existed at the time of the original construction: security, safety, code compliance, occupant and end user considerations, client considerations, energy considerations, LEED, etc. All of these are now part of the vocabulary of design that we

must employ. An analysis and synthesis of these factors will reveal the complete design parameters, or "program" for this project.

Initially in the process we will review existing drawings, reports, specifications and any other documentation from previous renovations and proposed plans. Once we have a general understanding of the available information, we will perform on-site investigations to gain an understanding of the overall existing lighting and the challenges for upgrades. The existing electrical systems, distribution and branch circuits will be assessed to determine the condition of each element of the lighting systems. Many codes and standards have changed since the last lighting renovations occurred and renovation projects often impact other elements in the building due to changes in codes including, but not limited to, electrical equipment, wiring and grounding systems. The project costs can grow if the other systems must also be brought up to current codes. We believe identifying those areas impacted during the investigation phase allows for the direction to be applied to the design. Our findings will be compiled in a report containing the analysis of the existing systems and recommendations based on the ultimate target of having state-of-the-art technology and historic preservation incorporated into the exterior site lighting on the Capitol grounds.

Our knowledge of the building obtained from the initial assessment and report will enable us to provide guidance for the extent of the lighting and related work. Once the scope is clear and concise, we can commence with the design process. The **ZDS** Team has the necessary experience and capabilities to prepare fully developed construction documents in a timely manner.

Our previous renovation experiences with the State and working with the various agencies and personnel provide us with an understanding of the need for phasing to avoid disruption of the occupants and to maintain use and flow throughout the Campus. We look forward to having an interview to review our approach in more detail.

Sincerely,

Todd A. Zachwieja, P.E., CEM, LEED AP
Principal, Chief Executive Officer

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RFQ No. GSD106430

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:
"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (***West Virginia Code*** §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: ZDS Design/Consulting Services

Authorized Signature: _____ Date: September 7, 2010

State of West Virginia

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 7th day of September, 2010.

My Commission expires November 1, 2014.

AFFIX SEAL HERE

NOTARY PUBLIC _____

OFFICIAL SEAL
Notary Public, State Of West Virginia
PATRICIA HART
105 Mesa Drive
St. Albans, WV 25177
My Commission Expires Nov. 1, 2014

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

Request for Quotation

RFQ NUMBER	PAGE
GSD106430	2

ADDRESS CORRESPONDENCE TO ATTENTION OF:
KRISTA FERRELL
304-558-2596

VENDOR
*003141947 01
ZDS DESIGN CONSULTING SERVICES
91 SMILEY DRIVE

ST ALBANS WV 25177

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES
BUILDING 1 ROOM MB60
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305-0123 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/08/2010				

BID OPENING DATE: 09/08/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT

I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.

ADDENDUM NO.'S:

NO. 1 Dated 9/3/2010

NO. 2 .....

NO. 3 .....

NO. 4 .....

NO. 5 .....

I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF TH ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.

VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.

.....
SIGNATURE

ZDS Design/Consulting Services
COMPANY

September 7, 2010
DATE

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
	(304) 755-0075	September 7, 2010

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Principal, CEO	55-0735995	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

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

Request for Quotation

RFQ NUMBER	PAGE
GSD106430	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
KRISTA FERRELL
304-558-2596

VENDOR
*003141947 01
ZDS DESIGN CONSULTING SERVICES
91 SMILEY DRIVE

ST ALBANS WV 25177

SHIP TO
DEPARTMENT OF ADMINISTRATION
GENERAL SERVICES
BUILDING 1 ROOM MB60
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV
25305-0123 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
09/03/2010				

BID OPENING DATE: 09/08/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 1		
				THIS ADDENDUM IS ISSUED TO ANSWER ALL TECHNICAL QUESTIONS SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE ORIGINAL EXPRESSION OF INTEREST (GSD106430)		
				EOI OPENING DATE REMAINS: 09/08/2010 EOI OPENING TIME REMAINS: 1:30 PM		
				********** ADDENDEM NO. 1 **********		
0001	1	LS	906-07	A&E SERVICES: CAPITOL COMPLEX EXTERIOR LIGHTING		
				****** THIS IS THE END OF RFQ GSD106430 ****** TOTAL:		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE [signature] TELEPHONE (304) 755-0075 DATE September 7, 2010

TITLE Principal, CEO FEIN 55-0735995 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

ZDS offers an effective organizational structure; one that takes each project from inception through completion, working as an extension of the *Client* every step of the way.

In 1983, Todd A. Zachwieja founded ZECO Consultants. In 1994 **ZDS** Limited Liability Company was incorporated in WV using dba **ZDS Design/Consulting Services.** This company was founded to provide design and consulting services. Today there are four principals with over 100 years of technical expertise:

- **Todd A. Zachwieja,** PE, C.E.M., LEED AP, Chief Executive Officer, brings with him over 28 years in the design and consulting business.
- **Ted T. Zachwieja**, Principal over Construction Administration services with over 45 years experience in the design and consulting business, was owner of Ted T. Zachwieja & Company from 1962 to 1982.
- **Daniel H. Kim**, Ph.D., Manager of Strategic Planning, brings with him over 22 years in the design and consulting business and is one of the nation's leading experts in organizational management. He is also owner/founder of Pegasus Communications, Inc. from 1991 to present.
- **Lori Zachwieja,** CPA, Chief Financial Officer and cofounder of ZECO Consultants.

ZDS is a consulting engineering firm specializing in the following areas:

MECHANICAL
ELECTRICAL
INDOOR AIR QUALITY
COMMISSIONING
ENERGY

Each new project is assigned to a principal in-charge who will follow the project from inception through commissioning.

We assign the production staff according to the nature of the project and the work force necessary to meet the schedule. The Principal in charge of that project determines if consultants are needed and coordinates all areas. After bidding, a Principal of **ZDS** coordinates visits to the job site regularly, all the way through the post-warranty inspection.

ZDS provides consulting engineering services for the indoor air quality (IAQ) environment. These services include; strategic planning for renovation and new construction projects; technical research and writing; specialized applications software development; corporate and professional training programs; publications support and fulfillment; and site-specific engineering and scientific consultation.

Todd Zachwieja, **ZDS** Principal, is contributing editor for the following IAQ publications:

- Contributing Editor and Technical Review Panel for the publication of the *IN*VIRONMENT™ *Handbook of Building Management and Indoor Air Quality*, by Chelsea Group and published for Powers Educational Services.
- Technical Review Panel for the Quarterly publication of the *IN*VIRONMENT™ *Newsletter*, by Chelsea Group for Powers Educational Services.
- *Ventilation for a Quality Dining Experience: a Technical Bulletin for Restaurant Owners and Managers*, released in January 1993.
- *The New Horizon: Indoor Environmental Quality*, published as a supplement to the June 1993, issue of *Consulting Specifying Engineer* magazine, a trade magazine distributed to roughly 50,000 engineers.
- Editorial Advisory Board member reviewing the articles of the monthly publication *IN*VIRONMENT™ *Professional*
- Editorial Advisory Board member of *POWER PRESCRIPTIONS*™ Indoor Air Quality Publication by *Electric Power Research Institute*.

ZDS provides IAQ services for major corporations, government organization, and property owners to resolve their specific facility problems:

- Resolve the building's "sick building syndrome" complaints.
- Identify solutions to extensive biological contamination building related illnesses in renovated office buildings.
- Develop solutions for HVAC systems, temperature controls, equipment, operating and maintenance practices causing IAQ problems in schools and commercial buildings.
- Commission new and renovated facilities to minimize or eliminate IAQ issues before they become problems.
- Develop and establish master plans as well as conduct training seminars for IAQ of schools and commercial buildings.

As one of the Nation's leaders in Indoor Air Quality, **ZDS** produces sophisticated technical expertise that enables *Our Client* to be proactive in solving and preventing indoor environmental problems.

Sustainable "Green Building" design, including LEED's certification, recognizes the importance of commissioning. The design and construction industry have had start-up problems when a facility is occupied and constructions' deficiencies that were not discovered until the contractor's traditional one-year warranty period expires. The mechanical and electrical systems have continued to become more complex with sophisticated control systems and equipment, and a mountainous amount of changing technology. If not properly addressed, building Owners could face numerous operational problems from "Sick Building Syndrome," excessive energy costs, and uncomfortable indoor environments. Commissioning is the missing link between design and implementation.

Subsequent to joining **ZDS**, Todd Zachwieja established commissioning services for one of the nation's largest energy service companies. He is also a ***LEED's Accredited Professional***. Many utility companies and building Owners now require commissioning for the new or renovated facilities in order to maximize the use of their investments in their facilities and to obtain LEED's certification. The commissioning process offers the following benefits:

- Improved comfort, serviceability and Owner understanding of systems and design intent.
- Added technical support for the Owner and being proactive in preventing new problems.
- Reduced maintenance and decreased expenses related to operating deficiencies.
- Early identification and resolution of system discrepancies while designers and contractors are still under contract and on the job.
- Verification of system performance while meeting financial restraints.
- Commission new and renovated facilities to minimize or eliminate IAQ issues before they become problems.

ZDS and its consultants offer commissioning services for their commercial and institutional clients, including meeting LEED's enhanced commissioning requirements. These services include strategic planning operations assistance for renovation and new construction projects. Commissioning services consists of construction document review, equipment performance testing, documentation of design criteria, value engineering, operational fine tuning, professional operations training programs and site-specific engineering consultation. Our project team has the unique experience of in-depth design knowledge and hands-on operations knowledge that fills in the gap between traditional design services and the building Owner's operational needs.

NATIONAL RECOGNITION

The National Conference on Building Commissioning invited Todd Zachwieja, **ZDS**'s owner, to speak. He jointly presented a paper with the Director of Maintenance of Charleston Area Medical Center's Memorial Division. The Tampa, Florida Conference involved experts nationwide.

The principal owners of **ZDS** and their consultants have extensive experience in building commissioning and have saved their customers hundreds of thousands of dollars in construction costs and operating costs through their efforts.

The design team at **ZDS Design/Consulting Services** is the best to provide engineering services for **your** project. Satisfying *our Client's* individual needs and distinct requirements is the foremost concern of **ZDS**.

MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT, INC

MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT
614 MAIN STREET
SUTTON, WV 26601
(304) 765-5716
(304) 765-5464 (fax)
mike@michaelgioulis.com
www.MichaelGioulis.com

QUALIFICATIONS

Mr. Gioulis has been a historic preservation professional since 1977. After beginning his West Virginia career working for the State Historic Preservation Office, Mike became the Assistant Director. He served as Historical Architect for the West Virginia Department of Culture and History and as Assistant Director of the Historic Preservation Unit. While there he was involved in a number of programs, including: Survey and Planning grants; historic resource surveys; review of construction grant projects; and tax certification applications. He is familiar with all aspects of interpreting standards for rehabilitation of existing and historic buildings. Mike meets the Secretary of Interior Professional Qualifications for Architectural Historian as outlined in 36 CRF 61 through the West Virginia Division of Culture and History, State Historic Preservation Office (SHPO). This certification assures that the Gioulis firm is qualified and has a background in the performance of historic preservation according to specified standards.

Since 1984, he has been practicing as a private Historic Preservation Consultant and has held a contract with the state as its Main Street West Virginia Design Contractor since 1988.
In private practice since 1984, he has been involved in rehabilitation projects and design assistance programs for downtown structures. This includes services to the West Virginia Main Street Office, resulting in over 1000 individual design projects, as well as workshops, resource team visits and technical assistance responses. Resource teams involve intensive site visits in a charrette environment reviewing community resources and developing strategies for revitalization. He has participated in over 50 teams. In addition, Michael has written a Maintenance Manual for downtown property owners. He has completed a number of successful tax certification applications and has participated in individual rehabilitation and restoration projects including the restoration of 20 building facades in downtown Matewan, WV.

Mr. Gioulis has successfully nominated numerous individual resources and historic districts to the National Register of Historic Places within West Virginia as well as in Ohio. Many of these projects were a continuance of an overall identification and protection strategy for the respective historic landmarks commissions and individual property owners. Recently, he has been involved with several ARRA projects, including the Huntington Federal Building, Huntington Courthouse

CAS Structural Engineering, Inc.

Firm Profile

CAS Structural Engineering, Inc. – CAS Structural Engineering, Inc. is a West Virginia Certified Disadvantaged Business Enterprise structural engineering firm located in the Charleston, West Virginia area.

Providing structural engineering design and/or analysis on a variety of projects throughout the state of West Virginia, CAS Structural Engineering has experience in excess of 20 years on the following types of building and parking structures:

- Governmental Facilities (including Institutional and Educational Facilities)
- Industrial Facilities
- Commercial Facilities

Projects range from new design and construction, additions, renovation, adaptive reuse and historic preservation (including use of The Secretary of the Interior's Standards for Rehabilitation) to evaluation studies/reports and analysis.

CAS Structural Engineering utilizes AutoCAD for drawing production and Enercalc and RISA 2D and 3D engineering software programs for design and analysis. Structural systems designed and analyzed have included reinforced concrete, masonry, precast concrete, structural steel, light gauge steel and timber.

Carol A. Stevens, PE is the firm President and will be the individual responsible for, as well as reviewing, the structural engineering design work on this project. While CAS Structural Engineering, Inc. has only been in business for nine years, Carol has over 20 years of experience in the building structures field, working both here in West Virginia and in the York, Pennsylvania vicinity. Carol is also certified by the Structural Engineering Certification Board for experience in the field of structural engineering.

CAS Structural Engineering, Inc. is covered by a $1 million errors and omissions liability policy.

P.O. Box 469 Alum Creek, WV 25003-0469 (304) 756-2564 (voice) (304) 756-2565 (fax)
A West Virginia Certified DBE Consultant
Certified in the Practice of Structural Engineering

Project Team

ZDS

Capitol Complex Exterior Lighting

Todd Zachwieja, PE, CEM
Principal-in-charge
Design

Ted T. Zachwieja
Principal-in-charge
Construction Administration

Historical Architecture
Michael Gioulis

Michael Gioulis
Historic Preservation Consultant

Structural Design
CAS Structural Engineering

Carol A. Stevens, PE
Structural Engineer

Mechanical/Electrical Design
ZDS Design/Consulting

Jim Watters
Project Manager MEP

Marshall Cochran
Designer/CADD

MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT, INC

CAS
Structural Engineering, Inc.

ZDS
Design/Consulting Services

Primary MEP Contact
Todd Zachwieja, Principal
Mobile phone (304) 545-4550

Secondary MEP Contact
Ted T. Zachwieja, Principal
Mobile phone (304) 552-5724

ZDS was formed to provide quality engineering and consulting services specializing in:

- Design of mechanical systems and electrical systems.
- Building indoor air quality survey and analysis.
- Energy management and conservation services.
- Commissioning for new and renovated systems in commercial, educational, industrial and health care facilities.

ZDS approaches engineered systems improvements from the building owner operator's perspective, focusing on practicality, cost effectiveness, energy efficiency, reliability, operability, maintainability of the systems and timely implementation of projects to minimize disruption on existing facilities. We concentrate on optimizing and utilizing the existing systems prior to recommending the purchase of new equipment when upgrading a facility. Actual requirements of existing systems are analyzed and considered in addition to the "design" requirements. Our staff listens to their clients needs through their extensive interaction with the facility operators and the key decision-makers. We believe this approach enhances the design of new systems and ensures that the systems will be practical and functional.

ZDS is a team of professionals capable of meeting a diverse range of needs of facility professionals in the building design, construction and operations. The principals each have specialties in certain aspects that relate to meeting the needs of the building owners and operators. Mr. Ted T. Zachwieja's over 45 years of experience in mechanical and electrical design bring the depth of skills necessary to make the construction and design process operate effectively. Mr. Todd A. Zachwieja's project management skills with his extensive technical strengths in mechanical/electrical engineering and experience in indoor air quality, energy management and commissioning complement the traditional design needs. Mr. Daniel H. Kim's extensive management experience with some of the nation's largest companies provides us with important conceptual planning and organizational understanding. Ms. Lori Zachwieja's accounting and financial management skills provide the in house experience to operate an efficient and effective company to better serve our clients.

ZDS continues to grow and is in the process of opening a Morgantown Office with a Professional Engineer heading that office. Our current project team includes the following to meet the challenges of our client's building design and operating needs.

Prior to joining **ZDS**, Todd Zachwieja coordinated millions in comprehensive energy conservation programs resulting in annual energy savings of millions per year and managed a profitable regional office for one of the country's largest energy service companies. He also developed computer programs for building energy analysis and monitoring and presented technical papers at regional and national conferences.

Education

Bachelor of Science in Mechanical Engineering from West Virginia Institute of Technology in 1982
Masters of Science in Engineering Management from the University of West Virginia College of Graduate Studies in 1989

Registrations

Professional Engineer, West Virginia, No. 10,127
Certified Energy Manager (C.E.M.), National Certification
LEED® Accredited Professional, National Certification through USGBC
Professional Engineer, Georgia, No. 18253
Professional Engineer, Kentucky, No. PE-17961
Professional Engineer, North Carolina, No. PE-017445
Professional Engineer, Ohio, No. E-53587
Professional Engineer, Pennsylvania, No. PE-040929-R
Professional Engineer, South Carolina, No. 25985
Professional Engineer, Virginia, No. 0402 025427

Professional Affiliations

Charter member Mountaineer Chapter of American Society of Heating
Refrigeration and Air Conditioning Engineers (ASHRAE)
Served as ASHRAE's Energy and Technical Affairs Chairman for 6 years
Recognized by the International Who's Who of Professionals
Recognized nationally as West Virginia's Business Man of the Year
Recognized nationally in 2007 as a "Legend in Energy"
Recognized nationally in 2008 as a "Charter Legend in Energy"
Charter life member of the Association of Energy Engineers
Professional Affiliate Member of the American Institute of Architecture
Member of the American Association of Hospital Engineers
Member of the National Society of Professional Engineers
Member of the National Society of Plumbing Engineers
Member of the International Code Council
Contributing editor and served on the Editorial Review Panel for "The Handbook of Building Management and Indoor Air Quality," "Ventilation for a Quality Dining Experience," INvironment Professional, Power Prescriptions and other publications and articles dealing with Indoor Air Quality (IAQ) and MEP engineering systems
Presented at regional and national conferences including the National System Commissioning Conference

Ted was involved with the mechanical and electrical renovations for the State of West Virginia Library Commission Cultural Center as part of a total $4.5 million project. The indoor air quality, temperature and humidity each were not in accordance with good design practices for this type of structure. **ZDS** was commissioned to correct these deficiencies while conserving energy.

Ted was selected as one of three engineers to train and teach a course designed by the Department of Energy and American Society of Heating, Refrigeration and Air Conditioning Engineers for emergency building temperature restrictions.

Prior to forming **ZDS**, Ted was regional manager for a hospital design firm and responsible for designing, construction management and project management for over $200 million in hospital and health care facilities. The facilities were located over eastern United States. Some of his health care experience includes millions in renovation and new construction design for Charleston Area Medical Center's Special Care Facility. Other local heath care experience includes Bluefield Regional Medical Center, Hopemont Hospital, Monongalia General Hospital, Montgomery General Hospital, United Hospital Center, St. Mary's Hospital, Summersville Memorial Hospital, Thomas Memorial Hospital, Webster Memorial Hospital, Cabell Huntington Hospital, Welch Emergency Hospital Surgicare Center, VA Hospital - Clarksburg, VA Hospital - Huntington, Mercy Medical Center, and Webster Memorial Hospital.

Professional Affiliations

Construction Specifications Institute (Charter Member)
American Society of Mechanical Engineers
American Society of Heating, Refrigeration & Air Conditioning Engineers
WV Mountaineer Chapter ASHRAE Past President and Charter Member
Association of Energy Engineers
Association of Hospital Engineers
WV Society of Hospital Engineers
Professional Affiliate Member of AIA
WV Association of Physical Plant Administrators

Lori L. Zachwieja, CPA

Principal
Chief Financial Officer

Qualifications

Lori has over 26 years experience in finance, business, and accounting including being a Partner in a consulting firm, a Senior Financial and Tax Analyst for the Corporate Financial Services and Small Systems Support Department at Blue Cross and Blue Shield of West Virginia, Inc. and Staff Accountant for Simpson and Osborne, a CPA firm located in Charleston, West Virginia. Lori also has worked with an architectural firm located in Charleston.

Education

Bachelor of Science in Accounting, Bachelor of Science in Business Management and a Bachelor of Science in Computer Management; all three degrees were with Honors, West Virginia Institute of Technology in 1983

Master's Degree at Marshall University

Registrations

Certified Public Accounting in 1988, No. 2542
Member of West Virginia Society of CPA's since 1985; Certificate Number 1949

Sherry Z. Powell

Office Manager
Specification Coordinator

Qualifications

Sherry is the **ZDS** Specifications Coordinator. She has over 10 years experience working with various state contracts with 3 years specifically in Engineering Design contracts. She has also provided assistance with AIA contracts and job specific Construction Administration documents. She coordinates day-to-day operational office management activities and has 12 years experience with various office settings. She has a diverse background through previous volunteer and charity work activities. She has served as co-coordinator and officer for numerous local groups and charitable organizations.

Education

Bachelor of Art Degree - Education Major WV state licensed K-12 with Minor in Psychology through Marshall University, Huntington, West Virginia - 1992
Order of Omega honorary member
National AE Association
Marshall University Dean's List

Mark A. Moore, P.E.
Project Manager
Electrical, Mechanical and Plumbing

Qualifications

Mark has more than 8 years of experience in electrical engineering, lighting, plumbing, technology, mechanical engineering, heating, ventilating and air conditioning, for educational, commercial and health care facilities. He researches and applies, International Building Codes, NFPA, Illuminating Engineers Society standards and National Electric Code in design. Mark has a strong background in microprocessor and microcomputer design. He is also responsible for Information Technology functions for **ZDS** and our customers.

Mark is an information systems and technology specialist and provides networking solutions and Windows based programming system solutions. He specializes in electrical power, security, fire alarm, lighting, plumbing, HVAC piping, and fire protection. Some of his educational and health care project experience includes Charleston Area Medical Center, Bluefield High School/Performing Art Center, Clay Elementary School, Concord University Technology Center, Elkins Middle School, H. J. Keiser Elementary, Hopemont State Hospital Fire Alarm renovations, James Monroe High School, Ohio University Bennett Hall mechanical and electrical renovations, Park Middle School, Ravenswood High, Ritchie Middle/High School, Tucker County High/Career Center, Webster Springs Elementary School geothermal heat pump system, Winfield High School HVAC/Electrical renovations, Pocahontas Co High School Renovations/Science Center additions, new McDowell County Southside K-8 School, Woodrow Wilson High School HVAC/Electrical renovations, United Hospital Wound Center and others.

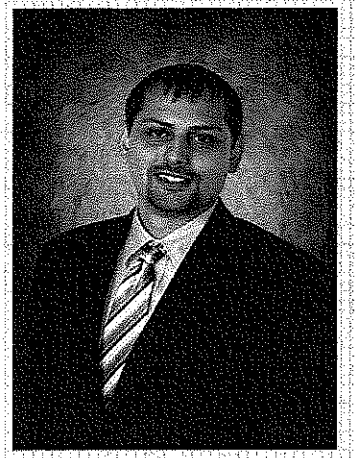
His commercial experience includes Cass Railroad Clubhouse renovations, DOT Rest Area and Welcome Center prototypes for the WV Department of Transportation, 4-H Camp Muffly Training/Dining facility, Hardy County Daycare facility, Jackson County Courthouse Annex, Kanawha County Judicial Annex, Mason County Courthouse, new Mercer County Courthouse Annex, multiple branch bank facilities, Camp Dawson Barracks security renovations, award winning Webster County IMC office facilities, Pendleton County Courthouse additions/renovations, new Webster County Multi-tenant Building, West Virginia Capitol Complex Performance Contracting HVAC retrofits, West Virginia Capitol Complex Master Planning for Security/Fire Alarm/Life Safety systems, and others.

Education

BS in Electrical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 2001

Registration

Professional Engineer, West Virginia, No. 17286



James W. Lowry, E.I.

HVAC, Plumbing and Fire Protection Designer

Qualifications

James has over approximately 6 years of experience and has completed extensive HVAC design training at Carrier Training Center, Syracuse, NY and hydronic design/applications at the B&G training center, Chicago, IL. He also had special courses in Finite Element Analysis, Vibration Analysis, Fluid Power, Automatic Controls, Industrial Instrumentation, and Programmable Logic Controllers (PLCs).

James' experience includes the design for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical and lighting for educational, health care and commercial facilities. He specializes in HVAC, fire protection & plumbing design and commissioning. He researches and applies International Building Codes, NFPA, ASHRAE standards and the AIA Guidelines for Design and Construction of Health Care Facilities in design.

Some of James' educational project experience includes Concord University Technology Center, Davis Thomas Elementary/Middle School, Elkins Middle School HVAC/electrical renovations, Eastern Greenbrier Middle School addition, Glade Elementary/Middle School renovations, Greenbrier West High School additions/renovations, Iaeger/Panther Elementary School, James Monroe High School HVAC renovations, Man/Central Elementary addition, Park Middle School HVAC renovations, Pleasant Hill Elementary renovations, Smithville Elementary School additions/renovations, Ritchie County Middle/High School HVAC/plumbing renovations, Tucker County High/Career Center HVAC renovations, new McDowell County Southside K-8 School, and Woodrow Wilson High School HVAC/electrical renovations.

James' health care experience includes Charleston Area Medical Center (Wound Center), Charleston Surgical Center, VA – Huntington steam replacement, VA – Huntington water line replacement, and VA – Huntington CT Scan renovations.

His commercial experience includes Commissioning West Virginia Air National Guard's $43 million maintenance and fuel cell hangars, Cass Railroad Clubhouse renovations, Burnsville Rest Areas, Morgantown Welcome Center, I-70 Welcome Center, DOT Rest Area prototype, DOT Welcome Center prototype, 4-H Camp Muffly Training/Dining facility, Kanawha County Judicial Annex, Jackson County Courthouse Annex, Mason County Courthouse, Pendleton County Courthouse additions/renovations, Tucker County Courthouse renovations, Point Pleasant River Museum addition, Hardy County Daycare Center, West Union Bank Award Winning new facility, multiple branch banking facilities, Webster County Multi-tenant build-out, West Virginia Capitol Complex Performance Contracting HVAC retrofits and Master Planning for Security/Fire Alarm/Life Safety systems.

Education

BS in Mechanical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 2004

Registrations

E.I. West Virginia No. 8376
West Virginia State Board of Registration for Professional Engineers

Professional Affiliations

American Society of Mechanical Engineers

MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT, INC

MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT
614 MAIN STREET
SUTTON, WV 26601
(304) 765-5716
(304) 765-5464 (fax)
mike@michaelgioulis.com
www.MichaelGioulis.com

EDUCATION:

B.S., City University of New York, City College, 1975.
B. Arch., City University of New York, City College, 1977.

BUSINESS EXPERIENCE:

June 1984-Present	Self-employed: Historic Preservation Consultant; Design; Construction supervision and management. Design Consultant to Main Street West Virginia since 1988.
June 1979-June 1984	State of West Virginia, Department of Culture and History, Historic Preservation Unit: Coordinate state, local and federal Programs; review construction and other projects for compliance with standards; administer grant, survey and tax incentive programs; public addresses.
September 1982-January 1983	University of Charleston, Charleston, West Virginia: Instructor, "Principles of Planning", urban design, planning and historic preservation curriculum.
October 1977-June 1979	Vecellio and Kreps. Architects, Charleston, WV: drafting; working drawings; review shop drawings; preliminary sketches and site layout; finish selection; specification writing; design.
September 1975-June 1977	Jeri-Jo Knitwear, New York City, NY: Assistant Manager; supervised seven employees; billing.
1968-1973	Various temporary occupations including home construction and remodeling; tree trimming and landscaping.
1968-1973	Prescott Merrill and Turben, New York City, NY: stockbrokers; clerk; head of segregation department.

CAS Structural Engineering, Inc.

Carol A. Stevens, P.E.
Structural Engineer

EDUCATION
West Virginia University, BSCE, 1984
Chi Epsilon National Civil Engineering Honorary
The Pennsylvania State University, ME Eng Sci, 1989

PROFESSIONAL REGISTRATION
P.E.	1990	Pennsylvania
P.E.	1991	West Virginia
P.E.	1994	Maryland
P.E.	2008	Ohio
P.E.	2010	Kentucky

BACKGROUND SUMMARY
2001 – Present	President, Structural Engineer CAS Structural Engineering, Inc.
1999 – 2001	Structural Engineer Clingenpeel/McBrayer & Assoc, Inc.
1996 – 1999	Transportation Department Manager Structural Engineer Chapman Technical Group, Inc.
1995 – 1996	Structural Engineer Alpha Associates, Inc.
1988 – 1995	Structural Department Manager Structural Engineer NuTec Design Associates, Inc.
1982 – 1988	Engineer AAI Corporation, Inc.

PROFESSIONAL ASSOCIATIONS
American Society of Civil Engineers
National Society of Professional Engineers
American Concrete Institute
American Institute of Steel Construction
West Virginia University Department of Civil and Environmental Engineering Advisory Committee Chair
West Virginia University Institute of Technology Department of Civil Engineering Advisory Committee

CIVIC INVOLVEMENT
ASCE Christmas in April Project
Engineer's Week Speaker

EXPERIENCE
West Virginia, Roane County Courthouse: Structural analysis of existing floor framing for addition of new high-density file storage system on upper floor level.

West Virginia, Lewis County Courthouse: Structural investigation for work required to update structure and apply for grant monies through WVCFIA.

West Virginia, Tucker County Courthouse: Structural investigation for work required to update structure and apply for grant monies through WVCFIA.

West Virginia, Gilmer County Courthouse: Structural analysis of existing floor framing for addition of high-density file storage system on upper floor level.

West Virginia, State Capitol Complex, Main Capitol Building Exterior Façade Restoration: Investigation and preparation of details for repairs to limestone and terra cotta exterior façade. Building is on State Historic Register and was constructed in the 1920's and 1930's.

West Virginia, First Presbyterian Church Restoration: Structural renovations of steel in lantern level and terra cotta cornice, overview of repairs to limestone and terra cotta façade of 1920's structure.

West Virginia, State Capitol Complex, Governor's Mansion: Structural analysis and design in addition to evaluation report for modifications and renovations to several areas of mansion. Building is on State Historic Register and was constructed in the 1920's.

West Virginia, Upshur County Courthouse: Developed construction documents for structural repairs to main entrance, dome and monumental sandstone columns of 1899 structure. Work was recently completed and received a WVAIA Honor Award for Design Excellence.

West Virginia, State Capitol Complex, Holly Grove Mansion: Structural evaluation report for preliminary condition assessment of building structure. Building is on State Historic Register and was constructed in 1815.

West Virginia, State Capitol Complex, Main Capitol Building Parapet: Exploratory investigation of limestone/brick parapet/balustrade of Main Capitol Building to determine cause of movement/cracking/ leaks. Construction contract for repairs has been completed.

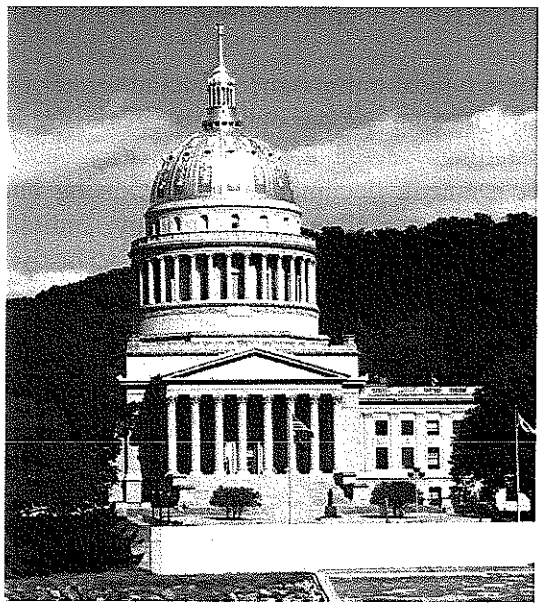
P.O. Box 469 Alum Creek, WV 25003-0469 (304) 756-2564 (voice) (304) 756-2565 (fax)
A West Virginia Certified DBE Consultant
Certified in the Practice of Structural Engineering

ZDS Design/Consulting Services

Project Name: ***State of WV Capitol Complex Performance Contracting Located in Charleston, WV***

Client Contact: Mr. Russ LaBarbra,
Sr Performance Assurance Eng
Johnson Controls, Inc.
4132 First Ave.
Nitro, WV 25143
Phone: (304)-759-2709
Cell (304) 389-1254

Services: Engineering planning & design for central heating plant, DDC controls, Air Handling Unit replacements and retrofits, operating and maintenance, training, heat recovery, fuel conversion, VFD's, variable water volume pumping, steam/heating hot water & chiller optimization.



Project Description

ZDS Design/Consulting Services and Johnson Controls Inc.

The State of West Virginia was aware that their facilities at the Capitol Complex were aging and in need of significant infrastructure upgrades but were having difficulty in appropriating the necessary funding to make such improvements. Many of the existing boilers and other primary heating equipment are past their expected service life and are in disrepair. The State of West Virginia passed a new bill in 2003 that permits Performance Contracting to be used as an avenue for implementing infrastructure upgrades in State facilities provided the upgrades self-fund within a 15 year time period. The State elected to solicit proposals from various ESCO's with the intention of crafting a major improvement project that would reduce operating costs to the State as well as pay for itself over the 15 year period. After an extensive review and selection process, the Team of Johnson Controls Inc. and **ZDS** Design/Consulting Services was selected. The scope of the proposal included various energy conservation measures to the Capitol Building as well as Buildings #3, 4, 5, 6, 7 and others. Significant HVAC improvements were engineered for the Capitol Building, as well as Buildings #3, 4, 5, 6, 7, 8 (Governor's Mansion) and provisions for #10 (Holly Grove) plus additional future capacity.

A central heating plant anchored the Facility Improvement Measures. It yielded the elimination of 14 failing boilers with provisions for future expansion of up to 250,000 square-feet of office space. A centralized heating plant offers greater efficiency in overall system operation,

ZDS Design/Consulting Services

Project Name: ***New West Union Bank***
Client/Location: ***Bridgeport, WV***

Services: Award winning Engineering planning, design, bidding and construction administration services HVAC, Electrical, Plumbing, and Fire Protection working through a local Architect.

Project Description: The new West Union Bank, located across the street from the Mercer County Courthouse, was completed in 2006. The two-story building houses the Magistrate courtrooms, jury deliberation rooms, attorney conference rooms, video conference rooms, witness rooms, Court Clerks offices, public research area; adult probation offices, Prosecutors offices, Probate offices, Court Administration offices; and public areas.

Approximate Project Cost:	**$1,500,000**
Project Size:	**32,000 square-feet**
Completion Date:	**Completion 2006**

ZDS Design/Consulting Services

Project Name: ***Nick J. Rahall II Technology Center***
Client/Location: ***Concord University, located in Athens, WV***

Client Contact: Mr. John Ferguson,
Chief Procurement Officer
PO Box 1000
Athens, WV 24712-1000
Phone: (304)-384-5233

Services: Engineering planning & design for HVAC, Electrical, Plumbing, compliance with ADA, Fire Protection, Technology, DDC Controls, VAV AHU's, variable water volume pumping, UPS, Emergency Power, energy efficient lighting, & information technology.

Project Description

Concord University had an existing building, White Hall, that they wanted converted to a new state-of-the art technology center. Working through E. T. Boggess Architects, **ZDS** evaluated the potential mechanical, electrical, plumbing, fire protection and technology needs for significant infrastructure upgrades for an existing building that was not ideally suited for a technology center. After careful analysis, the design team and Owner decided it was best to demolish most of White Hall and construct a 50,000 ft^2 three-story building attached to the existing remaining structure. Congressman Nick J. Rahall II helped in obtaining the necessary funding to make the project possible and Concord University named the building after him in appreciation.

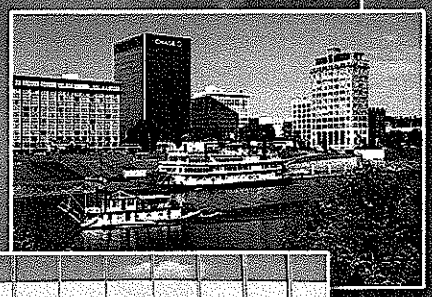
The quality of HVAC system was crucial to Concord University since they had just spent over a $1 million correcting Indoor Air Quality (IAQ) problems in an existing relatively new building in which they believed the HVAC system contributed to the problem. **ZDS** designed around a centralized heating/cooling plant for greater efficiency in overall system operation and provided centralized control and maintenance of primary heating/cooling equipment, with the added

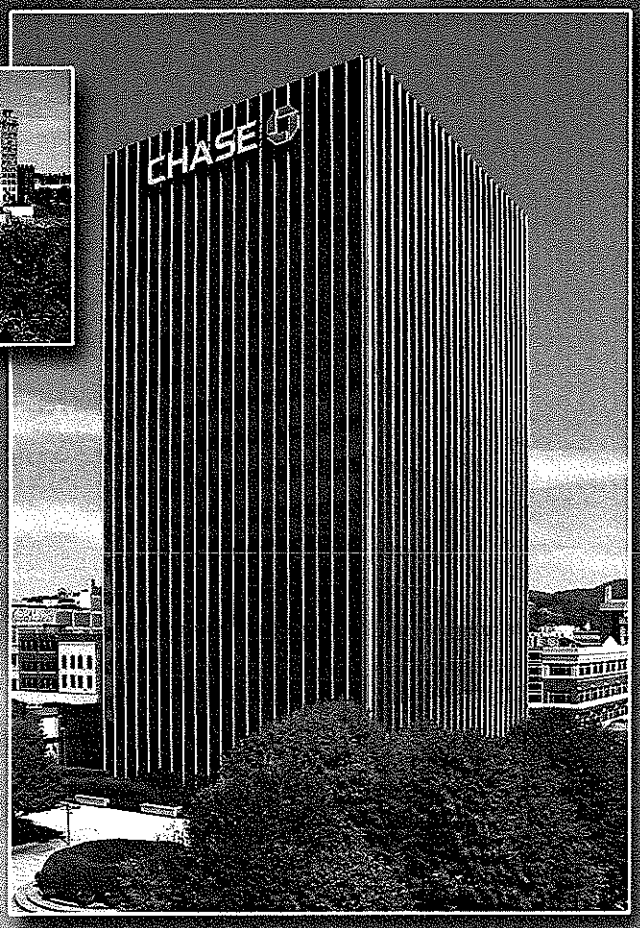
Engineering for Commercial Facilities

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

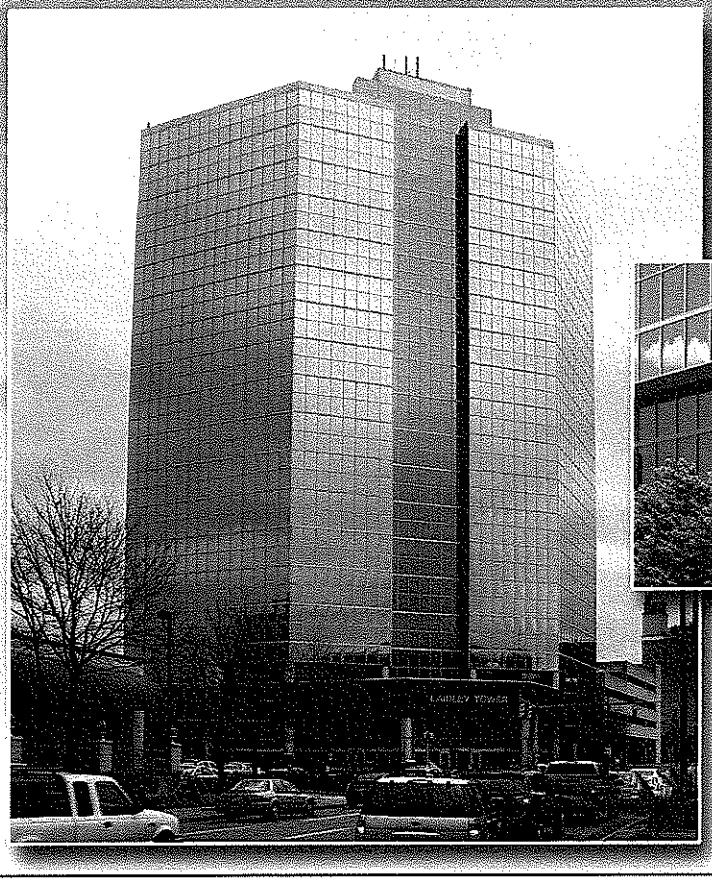
Bank One/Chase

A Charleston skyline focal point, the Chase Tower *(formerly Bank One)* contains 271,000 feet of professional office space.





ZDS replaced the core central HVAC system for the entire building.



Laidley Tower

One of the State's tallest buildings rising 18 stories high.

ZDS provided the Master Engineering Planning for the whole structure.

ZDS upgraded the core Mechanical/Electrical and Plumbing systems as well as customized tenant build-out renovations.

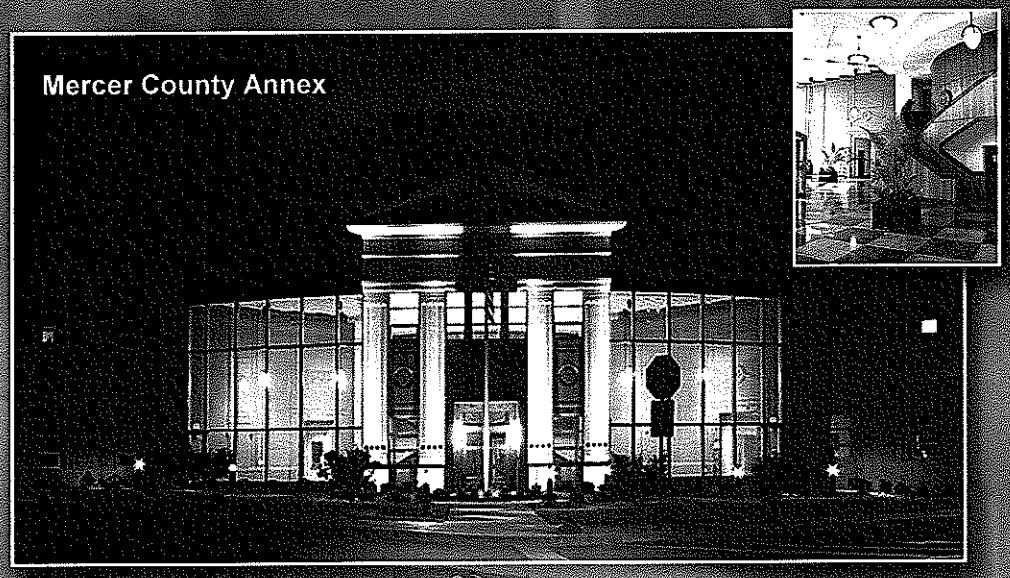
ZDS

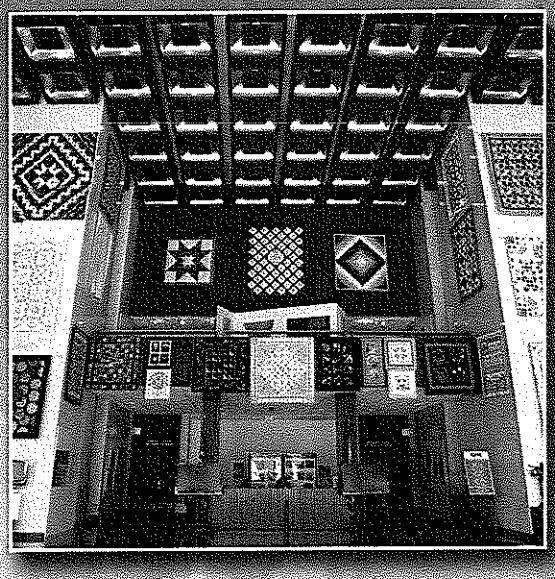
Design/Consulting Services

91 Smiley Drive, St. Albans, WV 25177 • (304) 755-0075 • www.zdsdesign.com

ZDS provided engineering planning, design, bidding and construction administration services for HVAC, Electrical, Plumbing and Fire Protection.

ZDS evaluated the existing courthouse's potential power needs and incorporated those in the new Judicial Annex's electrical systems while providing emergency power.



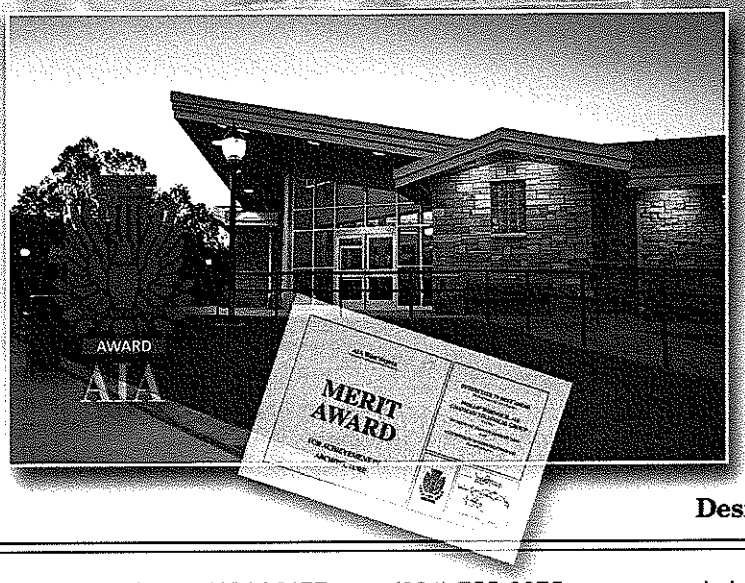


West Virginia Museum of Culture and History

Renovations save the Museum nearly $153,000 in annual energy costs while preserving the State's priceless collection with proper HVAC, humidification, lighting, electrical and power generator systems.

ZDS engineered the prototype for all of the Welcome Centers and Rest Areas throughout West Virginia.

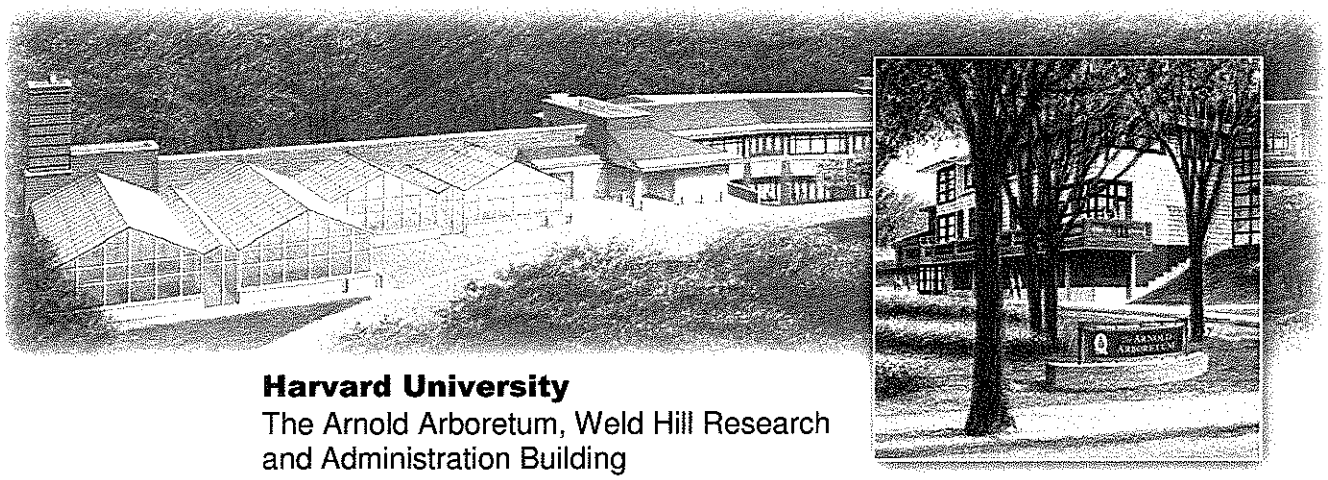
AIA recognized the Burnsville Rest Area with a Merit Award.



ZDS
Design/Consulting Services

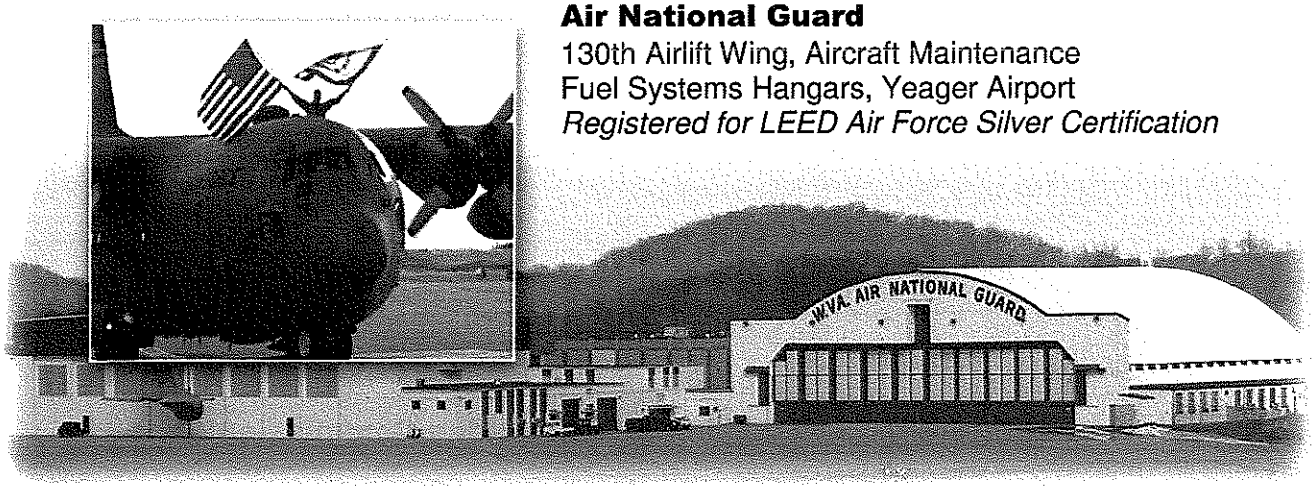
91 Smiley Drive, St. Albans, WV 25177 • (304) 755-0075 • www.zdsdesign.com

ZDS Project Experience — LEED

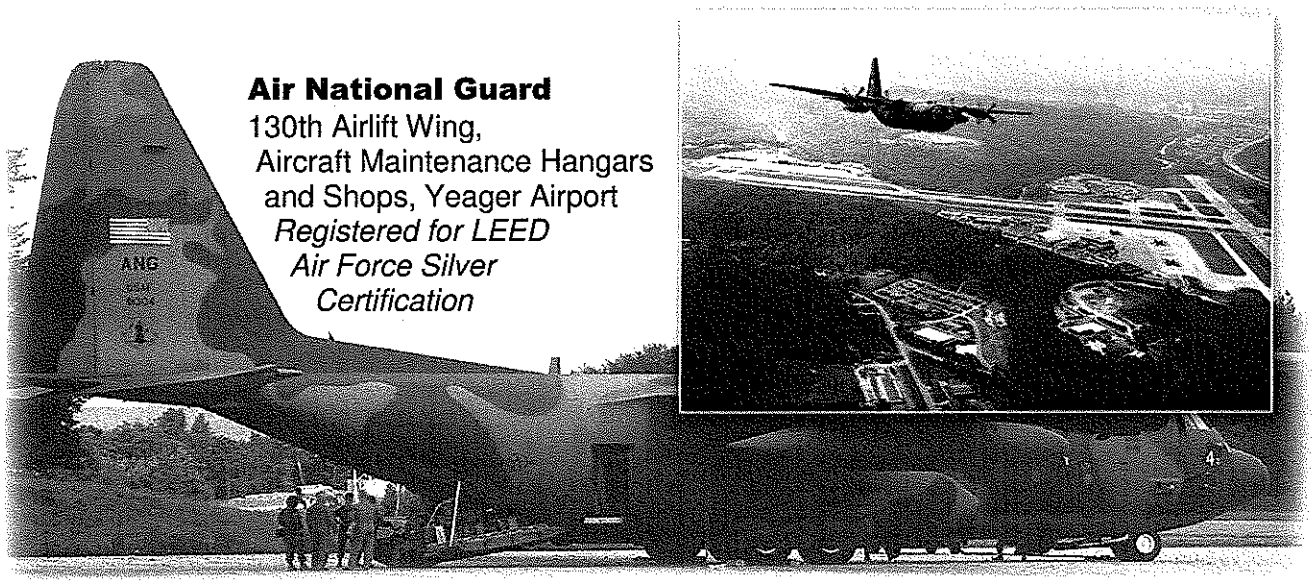


Harvard University
The Arnold Arboretum, Weld Hill Research and Administration Building
LEED Gold Candidate

Air National Guard
130th Airlift Wing, Aircraft Maintenance Fuel Systems Hangars, Yeager Airport
Registered for LEED Air Force Silver Certification



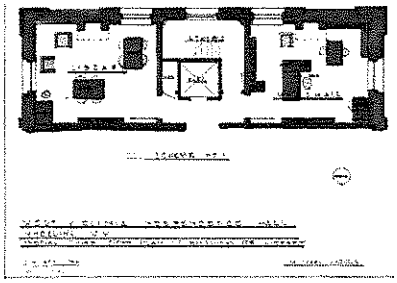
Air National Guard
130th Airlift Wing,
Aircraft Maintenance Hangars and Shops, Yeager Airport
Registered for LEED Air Force Silver Certification



MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT, INC

West Virginia Independence Hall

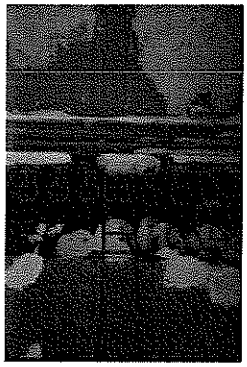
Various Projects
Wheeling, West Virginia
1979-1986

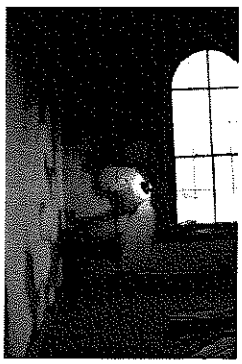


When Michael Gioulis worked for the Division of Culture and History he served as the state's representative to the West Virginia Independence Hall Foundation (WVIHF) and later as the staff member responsible for WVIH in the Historic Preservation Unit. After leaving employment with the state Mike continued to serve on various committees for WVIH and oversaw rehabilitation and other projects.

As the division's representative to WVIH during his tenure at Culture and History he supervised or participated in projects such as:

- Research and interview with WVIHF Beverly Fluty to determine original program and decisions made by the foundation
- Rehabilitation/restoration of the Post Office Work Room for use as exhibit space. This included restoration of the plaster in the entire room and restoration/reconstruction of the running plaster cornice.
- Interpretive Plan 1988
- Development of brackets and installation procedures for exterior bunting decoration for events
- Development of basement seating plan for presentations and meetings
- Structural stabilization of the first floor structure
- Exterior lighting
- Investigation into completion of the Judge's Room and Clerk's Room on the upper mezzanine level
- Rehabilitation of the Marshall's Room and Library Room on the third floor.
- Recording of ca. 1888 stencils in the Marshall's Room.
- 1987 Masonry Restoration project

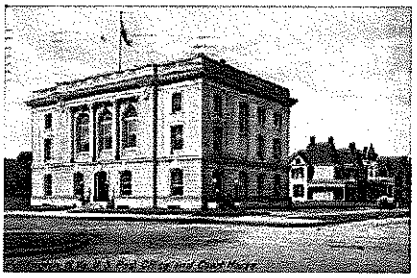




Federal Government, GSA Projects

Sidney Christie Federal Building

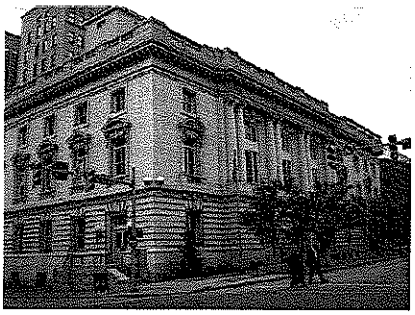
Huntington, West Virginia
2006-2010



Our firm has worked on several projects on this building, including the rehabilitation of the courtroom, exterior work, and a window and door replacement project. The courtroom project entailed the rehabilitation of the interior of the courtroom. The exterior work included site improvements and canopy restoration. The window and door replacement project included color selection, selection of manufacturers, glass selection, etc. Landscaping improvements included plantings, curbs and bollards.

Wheeling Federal Building

Wheeling, West Virginia
2005-20010



As part of a 106 Review, our firm was involved in a window restoration project and a rest room rehabilitation project for this building. We investigated the historic window and door configurations, as well as the existing conditions, and proposed treatments and provided recommendations for the repair, finishes and replacement of the doors and windows. The rest room rehabilitation project entailed the rehabilitation of the rest rooms for ADA compliance.

Abingdon Federal Building

Abingdon, Virginia
2006-2007

Our firm was contracted to determine eligibility of the Abingdon Federal Building for the National Register of Historic Places. This process entailed an in-depth review of the interior and exterior of the building, as well as its significance to the historic area of Abingdon, Virginia.

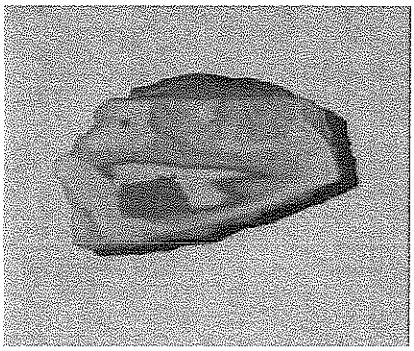
Contact/Reference:
Mr. William R. Whittington, Jr.
General Services Administration
300 Virginia Street East
Charleston, WV 25301
(304) 347-5155 ext. 18

MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT, INC

WV State Office Building 3

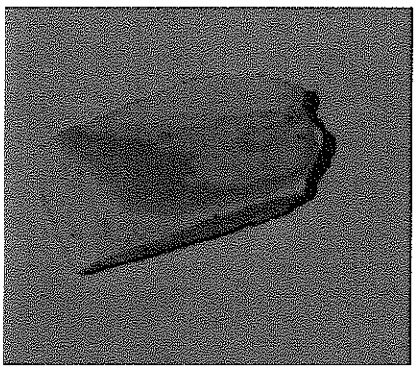
Interior Paint Color Analysis
Charleston, West Virginia
2008

A visual crater analysis of paint colors was performed in the lobby and on the second floor of West Virginia State Office Building 3 on May 15, 2008 by Michael Gioulis.



Research was conducted on the conservation of painted surfaces on architectural materials, including both plaster and metal, and samplings were taken from the walls of the lobby and second floor of the referenced building. The samples were then scraped and sanded to reveal accumulated paint layers, as well as the original paint used in these areas. Cross section analysis of the samplings confirmed the original paint colors used.

By photographing the build-up of paint layers from the plaster and metal surfaces, our firm created a precise record of what was found, comparing the original elements with later replacements and alterations.



As well as providing photographs and an in-depth report of what was found, our firm provided a map indicating where the samples were taken or the observations conducted.

In addition to Munsell standard notation, our firm provided approximate matches to Sherwin Williams standard color palettes for the samples.

Contact/Reference:
Mr. Robert Krause
General Services Division
Capitol Complex
Charleston, WV 25305
(304) 558-9018

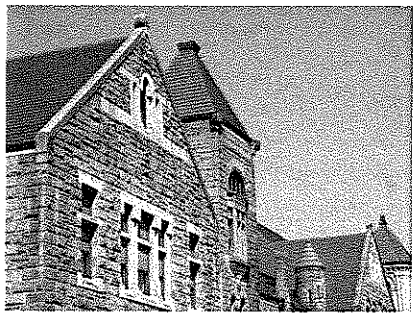
MICHAEL GIOULIS
HISTORIC PRESERVATION CONSULTANT, INC

Kanawha County Courthouse

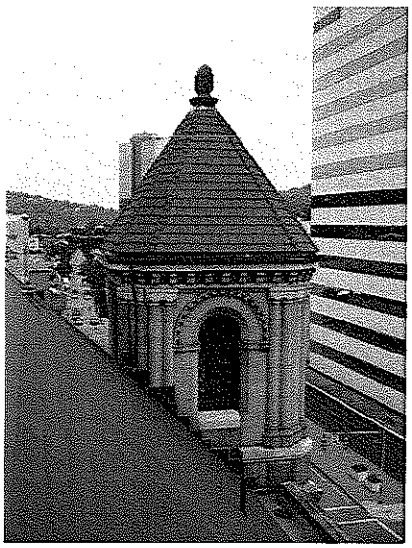
Charleston, West Virginia

Roof Restoration & Masonry Façade Restoration

1999-2005

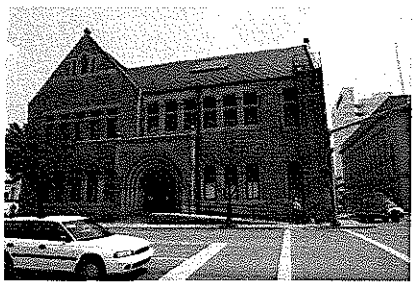


The Kanawha County Courthouse is a three-story stone building built in three sections: the central courthouse building was built in 1892 and has a three-story medieval tower with a pyramidal roof; the second portion was built in 1917 and faces Kanawha Street; the final and largest section of the building was built in 1924 and has twin towers with pyramidal roofs connected by a five-arched loggia. The team was hired in October 1999 to oversee the roof repairs, Phase I, and the second phase, which was to clean the masonry on the building.



Phase I was the replacement and repair of the original terra cotta clay tile roof, and all roof flashing was replaced at the same time. The team also subcontracted a historic roofing consultant, Lee Forbes, to assist in the project. The project was completed ahead of schedule in October 2002 and came in about $300,000 under budget. The original budget was anticipated to be about 1 million dollars. According to Mr. Forbes, roofing consultant, the flashing should be maintenance free for up to 75 years, and the Ludowici clay tiles used in the project have a life expectancy of 300-400 years, an American standard.

Phase II of the project consisted of pointing, cleaning, repairing and replacing damaged portions of the masonry façade. The products used for the cleaning were appropriate chemicals specifically formulated for historic buildings, and the mortar used in pointing matched the original in color, composition, strength and joint profile. Replacement stone was quarried in Ohio to match the original, and the tooling, configuration and profiles matched all original circumstances. This phase of the project was begun in summer 2004 and completed in summer 2005, on time. The contract amount was for $429,000, again under budget.



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DIVISION OF MOTOR VEHICLES—BUILDING 3
CAPITOL COMPLEX

Charleston, West Virginia

The limestone at the canopy was deteriorated to the point that pieces were loose and ready to fall. The project included an investigation to determine the support conditions for the stone.

During the investigation, it was determined that the support structure was not as shown on the original construction documents.

The repair of this element was completed in 2002.

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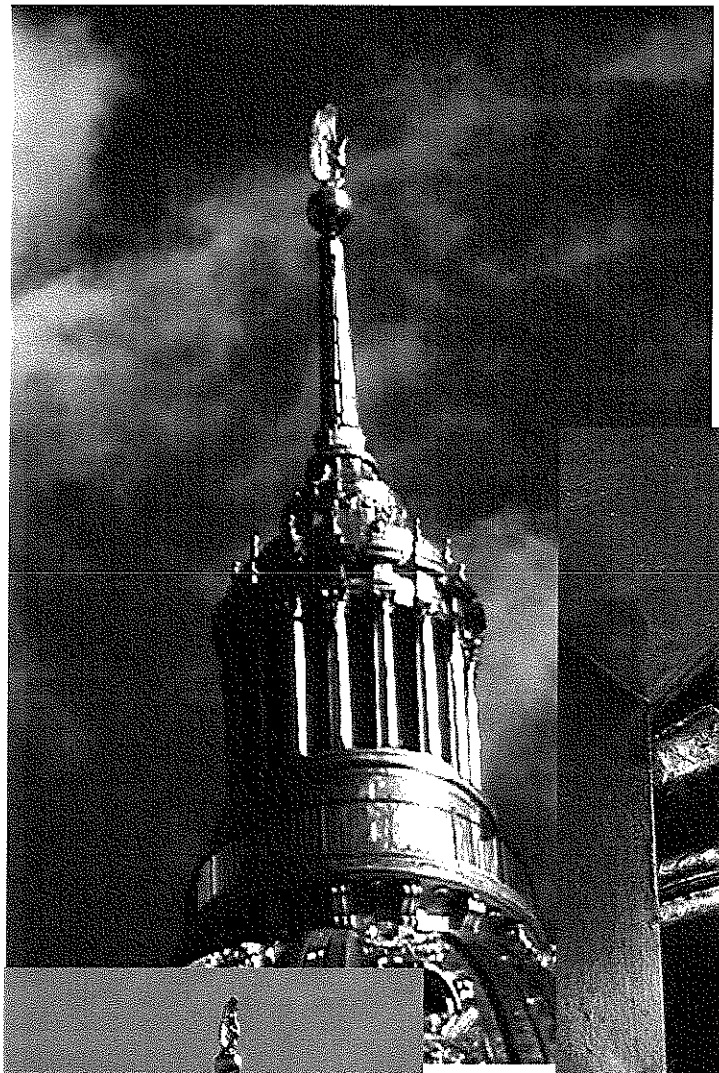
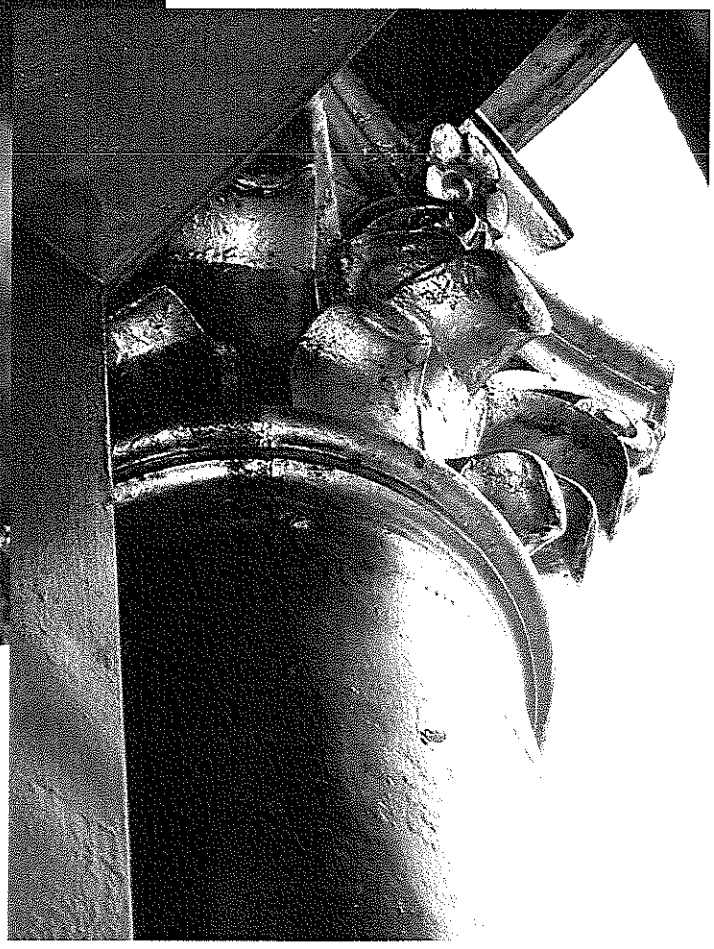
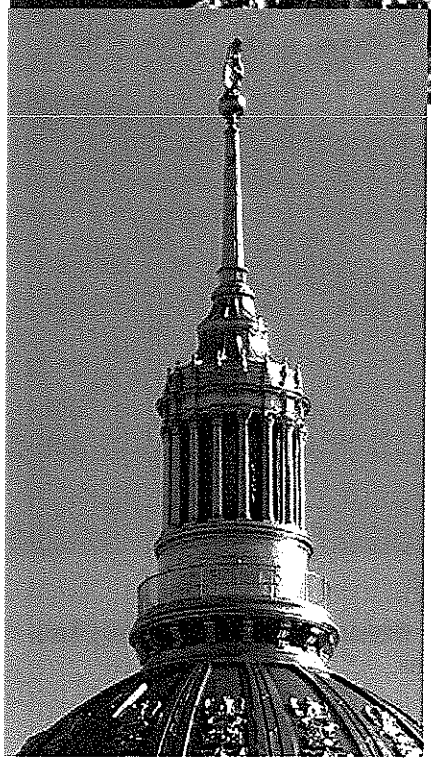
STRUCTURAL INVESTIGATION
MAIN CAPITOL BUILDING DOME

Charleston, West Virginia



The structural steel in the lantern level shows evidence of deterioration. Project included probing to determine extent of deterioration and preparation of plans and specifications for repairs.





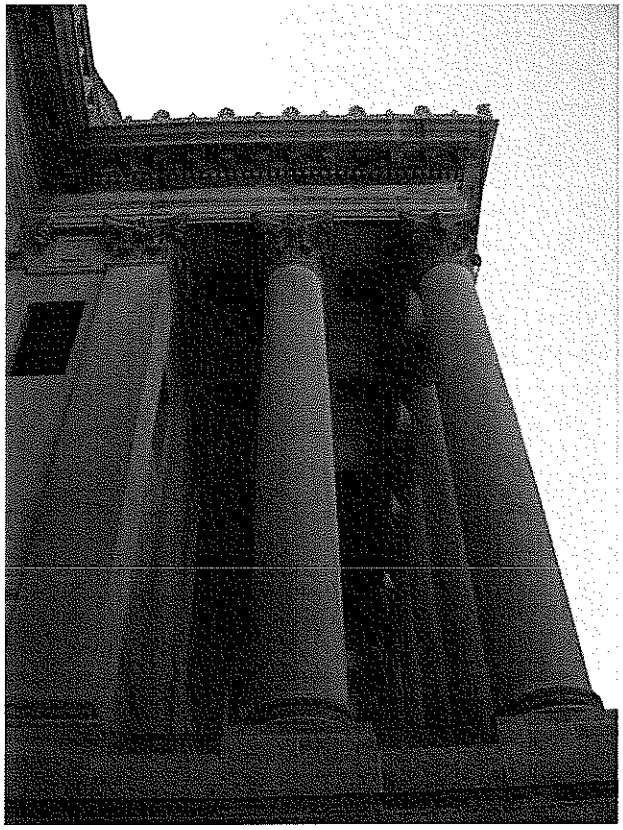
The structural steel after being repaired and the regilding complete.

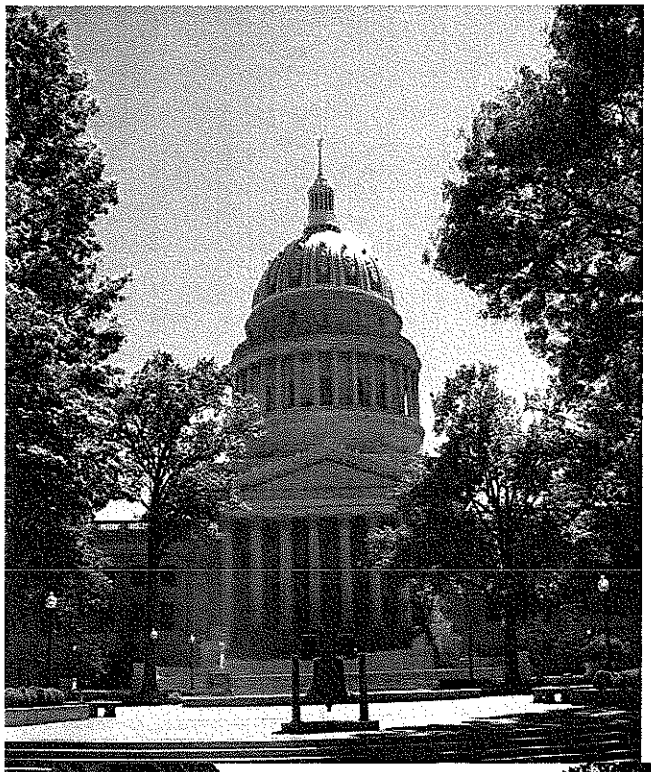
CAS
Structural Engineering, Inc.

Deterioration of steel supporting sheet metal exhibited such deterioration that portions of the steel have disintegrated. Main wind bracing in Lantern Level (not shown here) also severely deteriorated.

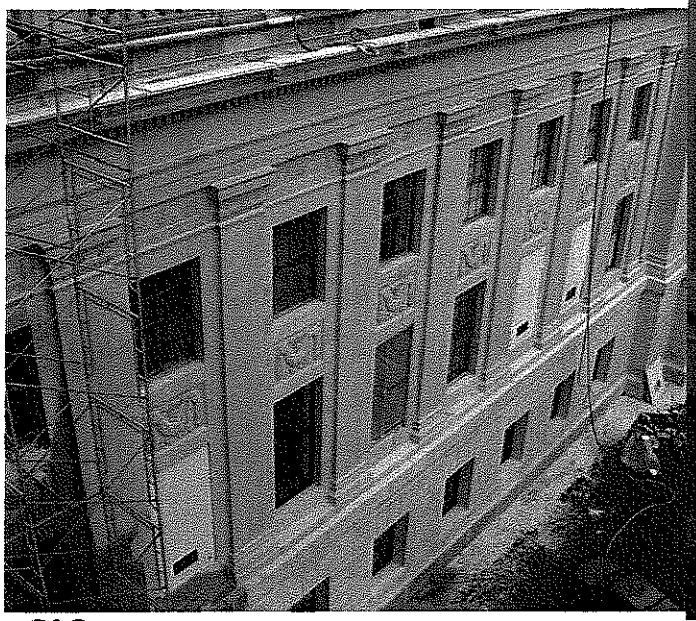
EXTERIOR FAÇADE RESTORATION
MAIN CAPITOL BUILDING

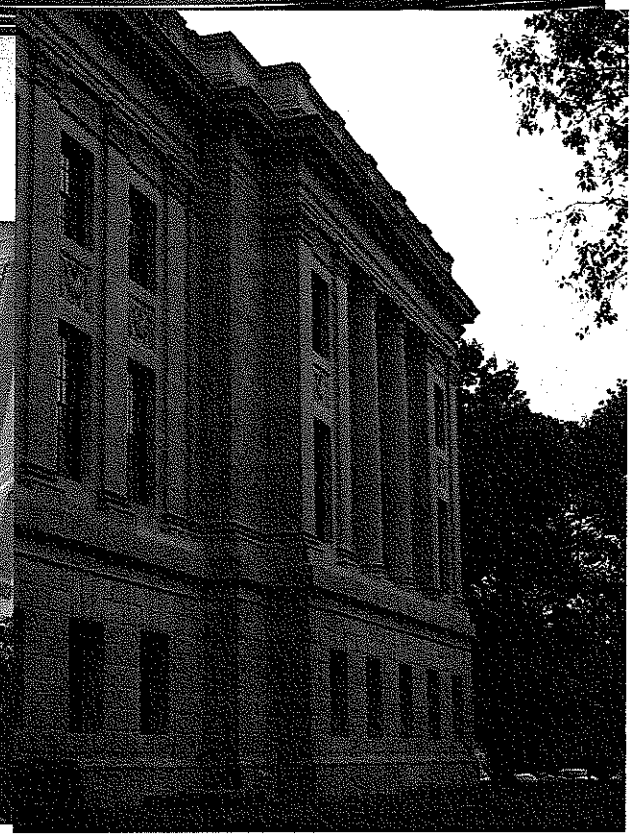
Charleston, West Virginia





Exterior façade restoration included cleaning, pointing, and repairs to the limestone and terra cotta components, windows and doors.





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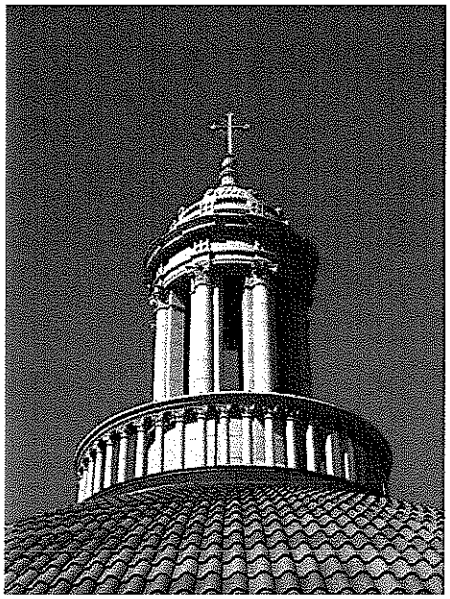
FIRST PRESBYTERIAN CHURCH
EXTERIOR FACADE RESTORATION

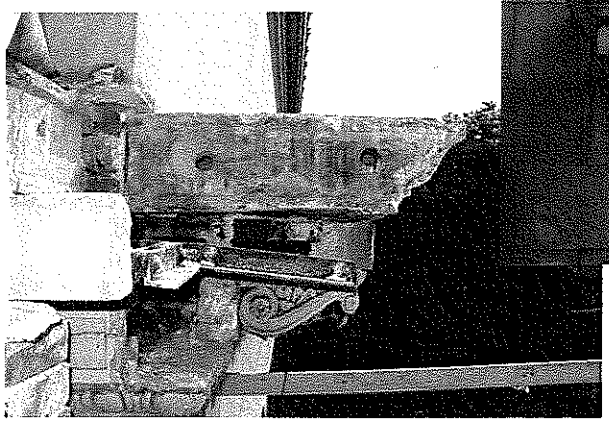
Charleston, West Virginia

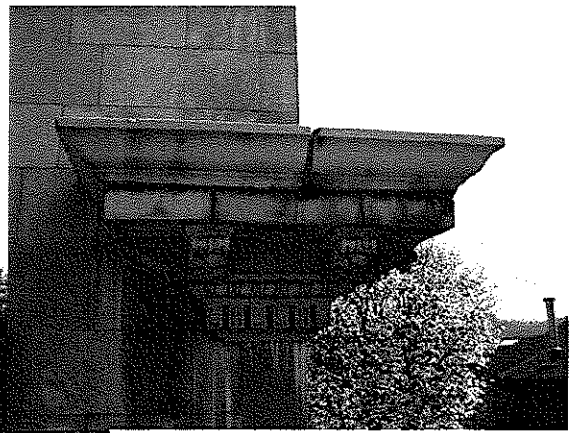


The terra cotta and limestone exterior of this 1910's building was in need of being restored to prevent continued damage to the exterior and interior of the building. The structural steel in the lantern level was replaced with stainless steel members and wind bracing was added.

The terra cotta balustrade was re-built after the iron components were found to be deteriorated.

The corners of the terra cotta cornice exhibited significant deterioration of the mortar joints and rotation of the units. It was found that the supporting steel members were not adequate for the load that was being supported. They were also replaced with stainless steel components.





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Paying for Performance

A growing number of colleges sign contracts with guarantees of savings of energy and money

BY MARTIN VAN DER WERF

TECHNICIANS are crawling over the campus of Ohio University, charting the use of electrical current in every office and dormitory room, measuring the brightness of lighting, the consumption of water, the air temperature in every room and alcove. They are trying to document every way that the university can cut its energy costs.

The answers are in little places. Ohio will replace 9,000 exit signs with exit lights that use 80 percent less energy and last 25 times longer. It will replace windows. It will put smaller, more efficient fluorescent tubes in the light fixtures. It will probably be watering its lawns and fields with well water rather than water from the tap. And, as a symbol of its turn away from a longtime reliance on coal, the university is considering buying its own natural-gas field, in the nearby hollows of the Appalachians.

It will be a 20-year project that will save millions of dollars per year in energy costs. Yet, to do it, the university won't have to come up with any new money up front.

In April, it signed a $25-million "performance contract" with Vestar, a subsidiary of Cinergy Corporation, a Cincinnati-based energy company.

HOW IT WORKS

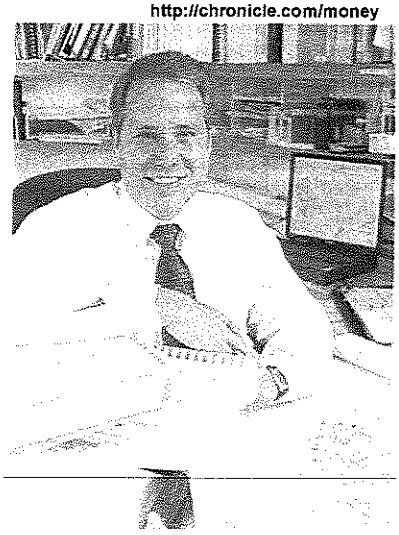
Performance contracts are an innovative financing method that is increasing in popularity on campuses. The process works like this: A contractor or energy company explores a campus and recommends ways to save money on energy bills. Then the contractor makes the changes or hires others to make them, and guarantees, in writing, that the savings the college will realize will cover the costs of the changes, usually within 10 years. The company can also arrange financing, so the college does not have any upfront costs. The college pays the company for construction and equipment in installments that roughly equal the amounts by which the college is cutting its energy bills.

The companies benefit by selling more of their products. For many colleges, the greatest appeal of the contracts is that they can use the savings to help eliminate backlogs in deferred maintenance. Many of them use the savings to buy more-efficient chillers, ventilation systems, and other utility-related equipment.

"This is a way for many institutions to get capital quickly," says Mohammad H. Qayoumi, vice chancellor for administrative services at the University of Missouri at Rolla, who leads sessions on utilities policy at institutes sponsored by the Association of Higher Education Facilities Officers.

"Are we going to see more? Definitely. We are going to see things going in that direction, especially with the deregulation of energy companies. They are increasingly going to want to sell electricity not only as a commodity, but all kinds of services along with it," he says.

University officials who have entered into the contracts point out, however, that the deals are immensely complicated. Any institution that is considering such a contract should consult with outside



Todd A. Zachwieja, a Consultant with ***ZDS*** *Design/Consulting Services: "Some schools have moved forward with contracts without fully understanding what they were doing."*

Sherwood G. Wilson of Ohio U. says its new energy contract will help it cover the costs of deferred maintenance.

experts, says Joe Kelley, executive director of facilities at Louisiana State University at Baton Rouge, which signed one of the first performance contracts by any college, an $18.8-million deal in 1990.

"We sort of had to find a pathway through the jungle on this one," says Mr. Kelley. His advice: "Get every word of it in writing."

Todd A. Zachwieja, principal of **ZDS** Design/Consulting Services an Ohio and West Virginia-based consultant on performance contracting, says there are now more than 100 companies in the business. The traditional market leaders are Fortune 500 companies like Honeywell, Johnson Controls, and Sempra Energy. Many of the newest ones are utilities trying to broaden their services.

AN UNTAPPED MARKET

The size of the market is difficult to quantify. Johnson Controls alone has about $1.6-billion in contracts, about 100 million worth with colleges, says Tom Proffitt, marketing manager for performance contracting at the Milwaukee-based company.

The college market, however, remains relatively untapped. Mr. Proffitt estimates that fewer than 20 percent of institutions have signed such contracts. But higher education has been a steadily growing segment of his company's business, he says.

Performance contracts were born in the 1970's, during the Arab

Continued on Following Page

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Mr. Wilson says he has not calculated how much all of the work will eventually save the university. In the first phase alone, he says, the equipment being installed will continue to save Ohio $700,000 annually for 20 years. The total savings after subtracting the cost of the equipment and financing would exceed $9-million.

At Louisiana State, the annual energy bill before the performance contract was $12.5-million. Now it is about $8.5-million, even with 10 percent more students on the Baton Rouge campus, says Peter N. Davidson, director of energy services.

The contracts are structured to guarantee that the savings will cover not only the costs of construction, new equipment, and financing, but also, in some cases, a fee, generally ranging from 1 to 4 percent of the size of the contract, for a guarantee that the contractor will make up the difference if the college's projected savings fall short of expectations.

Usually, the savings guaranteed in the contract are about 80 percent of the company's estimated energy-cost reductions, says Michael Besspiata III, director of facilities management at Georgetown College, in Kentucky.

Johnson Controls last year paid out about 1 percent of the total savings it guaranteed but could not meet in its $1.6-billion worth of contracts, says Mr. Proffitt.

As performance contracts become more common, Mr. Besspiata says, any size institution can benefit. Georgetown College, for example, signed a $750,000 performance contract last year with Enertech, a subsidiary of LG&E Energy Corporation.

Mr. Besspiata moved to Georgetown in May 1998, from the Southern Baptist Theological Seminary. Both institutions have fewer than 2,000 students. And each one now has modern energy-management systems, which tightly control energy use across the campus, paid for by the savings produced in performance contracts.

"I think a lot of colleges think they are too small to really get much benefit," says Mr. Besspiata. He projects savings in the current fiscal year of $85,000 on a typical annual utility bill of $1-million. "That's real money," he says. ■

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GEOEXCHANGE

Earth Comfort Update

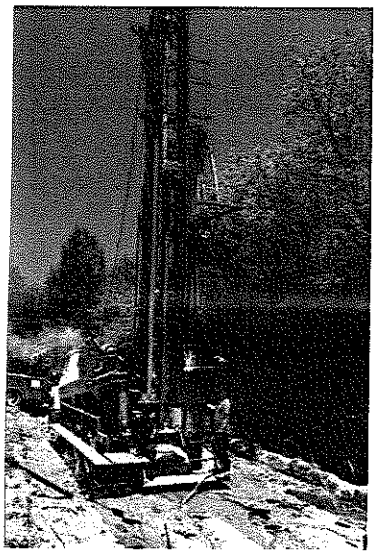
The GeoExchange National Information Resource Center Newsletter ■ Volume 6, Issue 4

July/August 1999

First in Line in West Virginia

Webster County High School in Upperglade, W. Va., is the first school in West Virginia to "go Geo" and has - in just eight months - realized energy costs savings of more than $34,000 and cut its electrical demand nearly in half. ***Update – 2000 annual energy savings exceed $74,500.***

In 1997 the Webster County Board of Education requested funds from the School Board Authority (SBA) of West Virginia to replace several rooftop heating units at Webster County High School. Upon inspection, SBA officials recognized that restoring the existing electrical HVAC system wasn't the best solution. They recommended a qualified mechanical engineering firm review the system and develop better options.



School officials were leaning towards a propane gas heating system when Allegheny Power, Greensburg, PA, and **ZDS** Design/Consulting Services, St. Albans, WV, introduced them to GeoExchange, which could provide greater energy efficiency, cost savings, temperature control, reliability and safety.

Webster's 500-ton system is the largest GeoExchange installation to date in West Virginia and the surrounding region. School officials estimate that the system will save about $50,000 a year in heating and cooling costs. ***Update – Energy savings increasing every year and now exceed $74,500 annually.*** In addition, it provides a healthier environment for Webster's 600 students, its faculty and staff by incorporating a cost-effective, outside air ventilation system.

"***We're very pleased with the system***," said Harry Given, facilities manager for Webster County schools. "***We've seen energy savings, had zero maintenance problems, and we believe that the savings will be even greater over time.***"

Drilling for the ground loop for Webster County High School's 500-ton GeoExchange system. It is the largest GeoExchange installation to date in West Virginia and the surrounding region.

Investing in the Future

"GeoExchange offers schools the best return on investment with the lowest environmental impact," said Gary Valli, an HVAC engineer with Allegheny Power. "In most cases, the life-cycle costs of a geothermal heat pump system are lower than any other system available today."

The Geothermal Heat Pump Consortium (GHPC) helped Webster County school officials by providing additional training to **ZDS** through its Design Assistance Program. "We were not sure how comfortable the school personnel would be with this type of system," said Todd Zachwieja, owner of **ZDS**. "A commercial geothermal system of this size had never been installed in our area, and the system cost was higher than HVAC systems customarily funded for schools."

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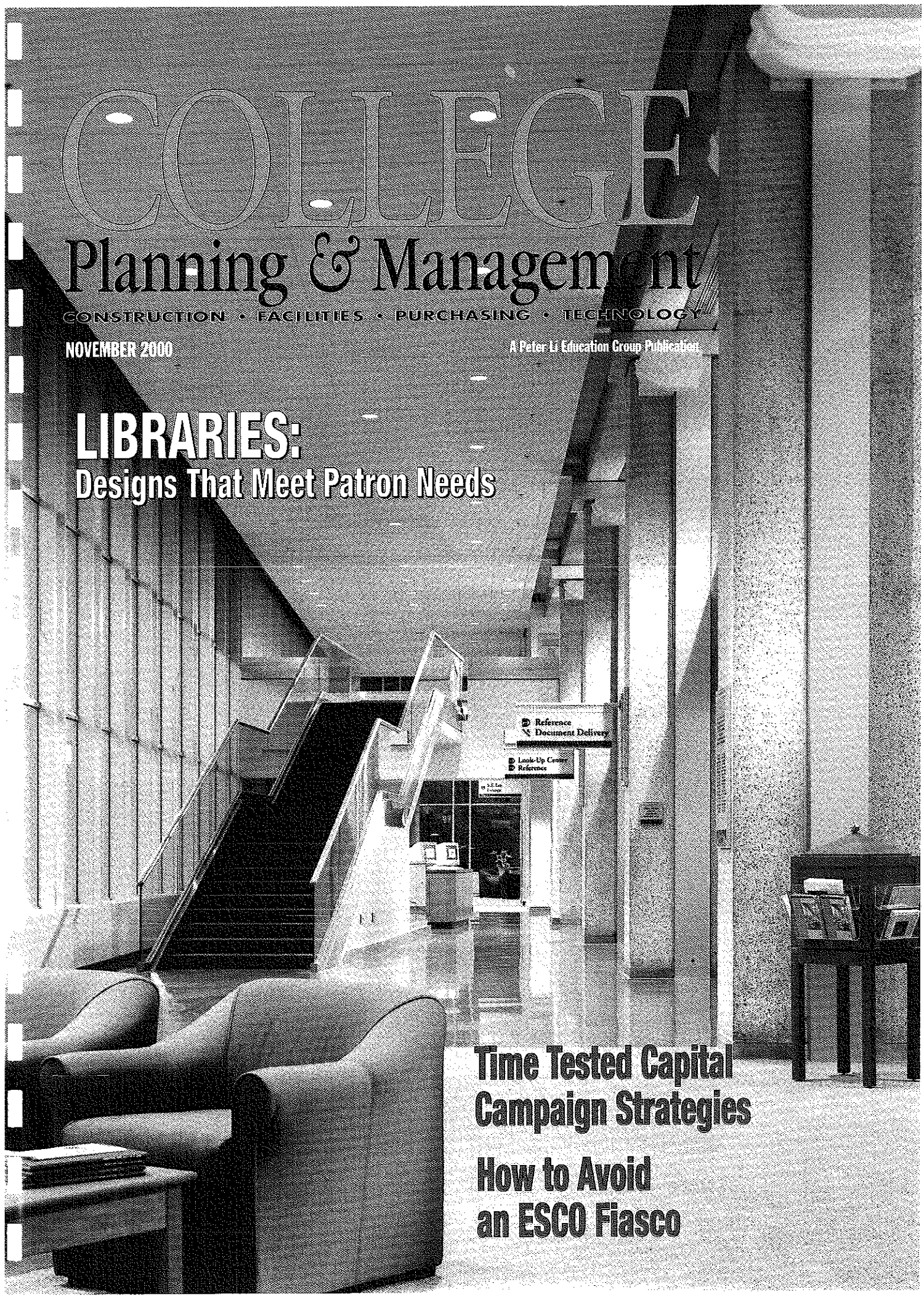

Time Tested Capital Campaign Strategies

How to Avoid an ESCO Fiasco

university will retain the annual savings.

Founded in 1804, today Ohio University is an educational community of 20,000 students and 3,500 faculty and staff. The 1,700-acre campus has some 190 buildings comprising a total 6.7 million square feet. In the 1970s the university created an energy management fund to carry out energy conservation projects, implementing a number of effective initiatives through the years. In the mid-1990s, with utility costs projected to rise to $19.1 million by 2020, the university knew it was time to make a major investment in upgrading its infrastructure and increasing energy efficiency.

The university's facility managers first identified performance contracting as a means to implement a new central chilled water plant. "Initially, the university saw no way to do this with existing resources, so we started looking for alternatives," says Terry Conry, director of Facilities Management. "While we have an outstanding staff, we didn't have anyone who personally had gone through a performance contract selection or implementation process. We were concerned about it, and we looked for help."

Selecting a Consultant

The consultant's key service would be to assist the university in selecting an ESCO. Through open advertisements and direct invitations, consultants were invited to submit their qualifications for consideration. After an evaluation of the RFQs, the university's facilities management team developed a short list of consultants, who were asked to provide the university with a proposal detailing their experience in the field of performance contracting. References were carefully checked, and interviews were conducted with finalists. All members of the consultant's staff who would be assigned to work with the university were required to be present for the interview.

The consultant's past experience with similar projects in colleges and universities was essential to Ohio University. "The consultants were asked to provide a list of at least five performance-based energy projects completed in the higher education environment," explains Ted Fares, director, Engineering and Technical Services, Ohio University.

Candidates were required to prove their expertise in design, planning, specifications, implementation and monitoring of energy conservation projects. "They had to be capable of analyzing energy use at our facilities and making recommendations for energy conservation projects which, if implemented, would provide guaranteed energy savings to Ohio University," Fares says.

Most important, they needed past experience in awarding similar contracts to ESCOs. "Knowledge of the legal and financial issues surrounding performance contracting was essential," Fares says.

In addition, the consultant needed to be able to train the university's staff in operation, final inspection and commissioning.

As a result, the university selected ZDS DESIGN/CONSULTING SERVICE. Based in St. Albans, W.Va., and Cincinnati, Ohio, ZDS is a consulting engineering firm specializing in mechanical and electrical engineering, indoor air quality, commissioning and energy conservation projects.

ZDS had previously worked with the university in a traditional design and mechanical/electrical engineering role. "Our role in this project was to assist the university in defining its needs, ensure that the structure of the program met these needs and guide the university in its selection of a performance contractor," says Todd Zachwieja, principal, ZDS.

Selecting the ESCO

The ESCO was selected through a two-step, RFQ/RFP process. The university advertised internationally, nationally and locally in trade magazines and newspapers. The advertisement required all candidates to attend a meeting at Ohio University to obtain the RFQ document, walk through the campus and participate in a question-and-answer session.

RFQ submittals from 14 ESCO candidates were evaluated and candidates short-listed by a committee of 12, comprising the university's architect, facility engineers, energy managers, administrators and service personnel, and ZDS. The two ESCOs who made it past the first cut were required to submit a detailed RFP.

The two-step process lengthened the selection process by about eight months, Conry says, while at the same time streamlining it. "ZDS provided a template that the companies had to respond to, to keep them from burying us in paper," he explains. "We asked everyone clear, concise questions, then limited the amount of additional information they could add. Nevertheless we got two- to three-inch-thick binders back from each firm. We took a lot of time going through those and checked references carefully."

Conry says one of the advantages of the two-step process is that it effectively narrows