



West Virginia Division of Corrections
Work Release/Training Center

COR 61447

February 1, 2010

RECEIVED

2010 FEB -2 A 9: 58

PURCHASING DIVISION
STATE OF WV

assemblage Architects

Site and Civil:	AMEC
Building Systems:	Affiliated Engineers
Structural:	Moment Engineering
Cost Estimating:	C.C.S. Inc.

Assemblage Architects
410 D'Onofrio Drive
Madison WI 53719
T 608 827 5047
F 608 827 6960

369 Brockway Ave.
Morgantown, WV 26501
T 304 284 0510
F 304 284 0156

assemblage ARCHITECTS

Mr. John Abbott
West Virginia Purchasing division
P.O. Box 50130
Charleston, WV 25305-0130

February 1, 2010

Dear Mr. Abbott,

Please accept this letter and its accompanying document as an expression of interest for professional design service for the design of Advanced Technology Centers. We are proudly joined in this expression by AMEC, Affiliated Engineers, Moment Engineers, and CCS Cost estimators

Our extensive and diverse academic and educational experience offers a broad range of insight extending from sophisticated media production facilities, to biotechnology, Radiation and medical, engineering and machinery, food and agricultural, and security and intelligence. Our ongoing work in West Virginia has been focused on our training facilities at Camp Dawson for the past 12 years designing some of most notable buildings in the WV National Guard inventories.

We have also designed educational facilities within the context of department of correction requirements, blending our educational experience, our industrial design experience, and security requirements of a correction institution. As an example, the Mountaineer Challenge Academy, which is due to open in May 2010 reflects many of our combined areas of expertise.

The team of professionals assembled for this project are chosen because of their expertise, our long history of working together, and the depth and breath of their resources to design buildings that are diverse, and flexible in a very fundamental sense. So, the buildings will become a catalyst in advancing the very idea of learning and the space and program can achieve in concert what they can not achieve alone.

With Respect,



Hamid Noughani, AIA, LEED AP

Principal

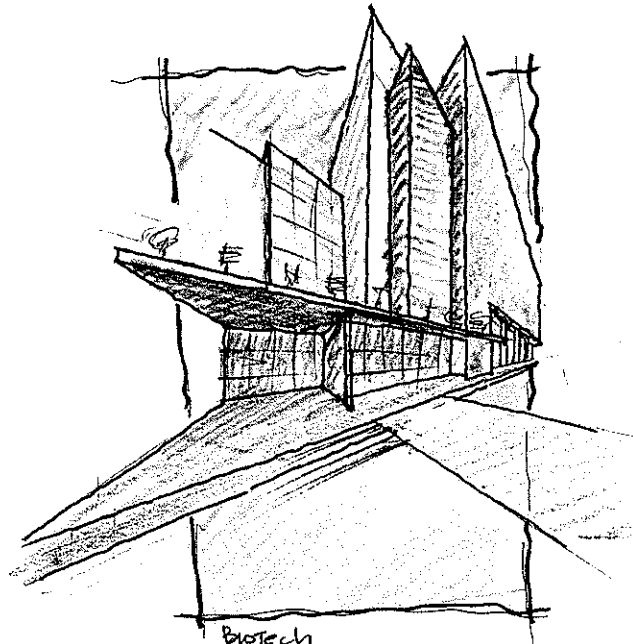
Assemblage Architects

369 Brockway Ave., Morgantown, WV 26501, noughani@assemblagearchitects.com T 304 284 0510,

Enclosure:

Section 1:	Firm Profiles
Section 2:	Personnel Resumes
Section 3:	Management, Quality Control, and Cost Control Plans
Section 4:	Portfolios
Section 5:	Liability Insurance Certificate

Section 1: Firm Profiles



Biotech
Entrance
7-1-01
Nooshan

Firm Profile

Assemblage Architects is a professional architectural practice with a focus on technically challenging projects across a broad range of building types. It was established in 2000 by Hamid Noughani, AIA, LEED AP, as a sole proprietorship practice offering consulting services to selected clients nationwide. As of November 2003, the practice has reorganized as Assemblage Architects, a limited liability corporation, as a response to the clients' need for a full service architectural firm. The firm's principals are veteran project managers and enjoy significant design and management experience completing many successful building projects.

The firm consists of four registered architects, four architectural interns and two technical staff. Assemblage Architects' offices are located at 410 D'Onofrio Drive in Madison, WI and 369 Brockway Ave., Morgantown, WV.



FIRM PROFILE

Affiliated Engineers, Inc

Innovation, design excellence, and service are the hallmarks of Affiliated Engineers, Inc (AEI) We use these characteristics to distinguish ourselves. The essence of these characteristics is demonstrated when we plan, design, and commission quality sustainable buildings that support our clients' missions.

With 81 years of technical knowledge and skill in professional project management, we think you'll find working with AEI a pleasure. Our staff of 563 engineers, designers and support staff includes 115 LEED® accredited professionals

Our Principals and Project Managers engage with clients to understand their specific needs and apply trends and emerging technologies that will positively impact their specific businesses. Project teams are thoughtfully constructed to utilize experienced staff and to match individual expertise to unique project challenges. The result is insightful designs that respond to challenges and support our clients' business goals.

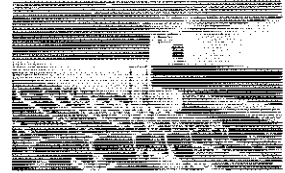
Every client we work with has project specific challenges. In order to meet these challenges, the best results are achieved when our involvement begins early, during programming and concept development, and continues through construction and occupancy. We've found that complex projects go smoothly when we collaborate with the architect and other consultants from the inception of the project. This ensures the engineering systems meet project requirements and that adequate space is allocated for the systems before a final design is selected. Our goal is to integrate these systems into the form of the facility and allow for flexibility as needed for future development

Our teams are committed to excellence in communication. We strive to actively listen to and understand the distinct needs of our clients and their facilities so we can achieve the highest level of response and service, provide feedback, offer alternative solutions and effectively implement client decisions.

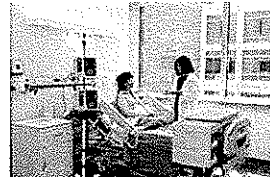
Markets



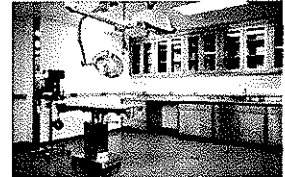
Science + Technology



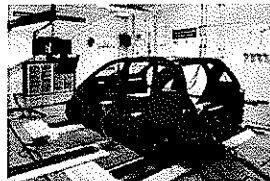
Higher Education



Healthcare



Medical Science



Industrial



Government



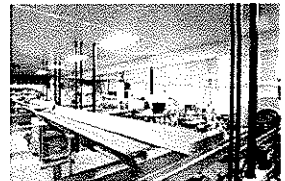
Office



Cultural



Historic

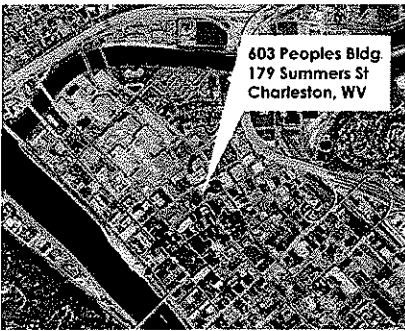


Process

Services

- Architectural Lighting
- Commissioning
- Construction Field Services
- Cost Estimating
- Energy Analysis
- Instrumentation and Controls
- Master Planning
- Mechanical Electrical Piping/Plumbing Engineering
- Process Engineering
- Sustainable Design
- Systems Integration
- Technology Planning and Design

Background



Moment Engineers, Inc.

Moment Engineers, Inc. is a professional consulting firm specializing in structural engineering. We serve the architectural and building construction communities throughout West Virginia. Based in Charleston, West Virginia at 179 Summers Street, Moment Engineers was founded by Douglas Richardson in early 2005. Prior to that, Mr. Richardson was employed by a West Virginia architectural/engineering firm as their Senior Structural Engineer.

Since 1993, Mr. Richardson has had sole responsibility for the structural engineering design of more than 5 million square feet of built space, with the total construction costs of these projects exceeding \$600,000,000. His experience, which ranges from small to very large multi-phase projects, is invaluable in providing the technical expertise and creative flexibility to deliver results in a prompt and reliable manner.

Our staff's experience encompasses a wide variety of building types and sectors, and our expertise includes designing with steel, concrete, masonry, and wood.



AMEC Intro

Assemblage Architects has selected **AMEC** as their **business partner** for this contract. The Team will use AMEC's **breadth of services, technical expertise, and resources** to support successful delivery on this contract. AMEC is a **recognized world leader** in technical services and provides cost-effective environmental and engineering services. According to rankings by Engineering News Record, they are **one of the largest international engineering services organizations in the world**. They truly provide **"World Skills at your Doorstep"** through **"Local Service, Global Reach."**

With more than **3,000 employees throughout the North America** and over **1,600 professionals in the U.S.**, AMEC has the qualified resources necessary to provide geotechnical, civil engineering, and environmental planning support to the Team and the West Virginia Army National Guard (WVARNG). For the past **14+ years**, AMEC has been **providing nationwide engineering and environmental planning services to both the Army and Air National Guard**.

In particular, AMEC and its predecessors has a **long, successful history with the WVARNG**. Over the years, AMEC has supported the WVARNG at **Camp Dawson** and number of other locations across the state on a series of instrumental projects. **The individuals assigned to this contract have first-hand knowledge of the topography and soil conditions that will be challenges in making the proposed multipurpose building a reality.** They are the same set of resources that performed geotechnical and civil engineering services on **WVARNG's Modified Record Fire Range (MRFR)**. Their expertise on civil site lay out saved millions in development costs.

AMEC and Assemblage Architects have a synergistic history of successful projects together, including Camp Dawson's conceptual master plan.

Construction Cost Systems, Inc. *Firm Profile*

Construction Cost Systems, Inc., (CCS), is an independent consulting firm specializing in the preparation of construction cost estimates at all phases of design since 1979. CCS' corporate headquarters is located in Oakbrook Terrace, Illinois with branch offices in Waldorf, Maryland, Durham, North Carolina and Altamonte Springs, Florida. CCS has 30 full-time employees on staff.

CCS provides industry professionals with detailed, objective information that represents the scope, complexity and quality anticipated for their projects. We are dedicated to working with our clients to identify their needs and help them achieve their project goals.

Scope control is the key to any successful construction project, and timely cost estimates are useful decision-making tools that serve as benchmarks to validate budgets as designs evolve. Our role as an independent cost consultant allows the owner, architect and other team members to function more productively and effectively in their own roles.

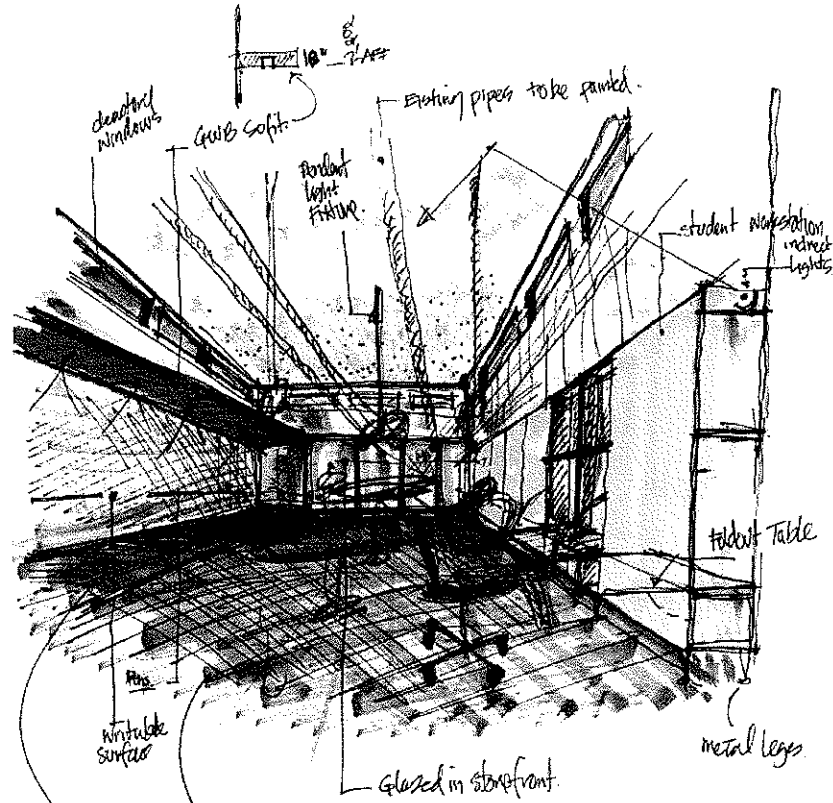
CCS brings a diverse knowledge base to any project team. Our full-time staff of cost professionals has experience working on projects of all types and sizes and is comprised of Certified Cost Engineers, Certified Professional Estimators, schedulers, and quantity surveyors.

With specialists in all major construction disciplines including architectural, structural, civil, mechanical and electrical, we give design teams time to focus on what they do best. . . design.

CCS, a minority owned business, is registered with a variety of Federal, State and City agencies as a Minority Business Enterprise (MBE) including the State of Illinois, State of Texas, State of Indiana, State of Wisconsin, State of Missouri and the Commonwealth of Virginia.



Section 2: Personnel Resumes



Engineering Hall
Grad student office Area
6/29/04
Noughmani

Hamid Noughani, AIA
Principal in Charge

Education

University of South
Florida:
M. Arch

Salem College:
B S Industrial
Engineering

Professional
Registration

Architecture: WI, FL, WV,
NCARB

LEED Accreditation

Professional Affiliations

American Institute of
Architects

US Green Building
Council (USGBC)

Before founding Assemblage Architects, Hamid enjoyed extensive tenures in architectural firms in Spain and the United States. During these tenures he was the primary designer and project manager, completing many commissions of various complexities and scales. He established Assemblage Architects, in Madison, placing an emphasis on complex technical commissions that require careful planning, long range commitment, and extensive collaboration with consultants. His skills in complex project management, team leadership along with design sensitivities to complex building system requirements and program demands provide the design teams with a clear process of articulated goals and objectives, to accomplish the commission successfully. He is regularly consulted on strategic planning of large and complex facilities by private and public institutional clients.

Selected personal Experience

UW Madison

Genetics Biotechnology Building *
BSL 3 AG laboratory and Vivarium
Study for a new Physical Plant Building
Engineering building lab renovations
Babcock Hall Renovation
School of Veterinary Medicine-
TomoTherapy Linear Accelerator
Addition

UW Eau Claire

Hibbard Humanities Hall Media Labs

National Guard Bureau

Joint Interagency Training Center-East
Regional Training Institute-Kingwood*
Armed Forces Reserve Center-WV*
Mountaineer Challenge Academy
Master Plan Study - Camp Dawson

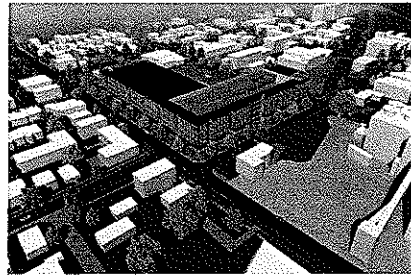
General Casualty Insurance

Print and processing Center*
Administration Building Addition*

** Personal projects during tenure with other architectural firms.*



UW Genetics Biotechnology Building Madison



UW Physical Plant Study



Regional Training Institute - Kingwood, WV



WVANG Regional Training Institute

Kim Spoden, AIA
Project Manager

Education:

North Dakota State
University
B. Science
B. Arch.

Professional
Registration:

Architecture: WI
LEED Accreditation

Professional Affiliations

American Institute of
Architects

US Green Building
Council (USGBC)

After extensive tenures in design firms in Madison, Kim joined Assemblage Architects as a principal and leads the firm's production and coordination. Her experience in a broad range of projects in terms of complexity and size has provided her with insight in the importance and accuracy of documentation and the advantages of well coordinated documents.

Her primary role in coordination and documentation of the project includes developing specification and construction administration of the projects. Her extensive experience in working with governmental agencies has earned her an insight into the processes and requirements associated with the execution of the projects in these type of environments.

Selected Experience

UW Madison
Biotechnology Building Addition*
BSL 3 AG laboratory and Vivarium
Engineering building lab renovations
Babcock Hall Renovation

UW Eau Claire
Hibbard Humanities Hall Media Labs

Military - Camp Dawson, WV
AFRC Addition
Mountaineer Challenge Academy
Military - Madison, WI
Facility Rehab for Military Affairs
Army Alternations for Military Affairs

State of Wisconsin
Stonefield Museum Renovation
Oregon Correctional Center Renovation

Education
Evansville School District master plan*
Edgewood College Center of Visual Arts*
Sun Prairie Middle Schools *
Edgewood Humanities Building *

** Personal projects during tenure with other architectural firms.*



UW Genetics Biotechnology Building Madison



DeanCare, Madison



Humanities Building -Madison



Mountaineer Challenge Academy

Peter Schad, AIA
Project Architect

Education: After tenures at design firms in the Madison area, Pete joined Assemblage Architects as a project architect. Pete is instrumental in project programming, design, documentation, and coordination.

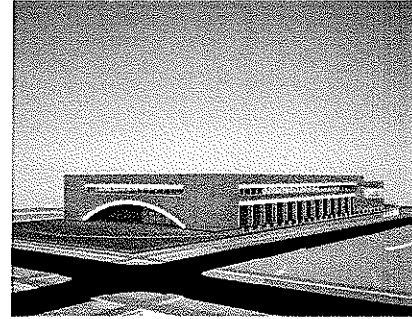
University of Minnesota
B. Arch

Professional Registration: As both a Project Architect and Project Manager, Pete has been involved in a number of various research and technologically intensive scientific facilities. He has an extensive knowledge of the processes associated with the successful delivery of technically complex projects.

Architecture: WI

Professional Affiliations

American Institute of Architects



Multi-Purpose Building, Camp Dawson, WV



Immunex / Amgen, Seattle, WA

Selected Experience

Bausch and Lomb
Research and Development Expansion
2 Story Lab and Office Building*

Immunex / Amgen
3 Story Seismic Resistant Laboratory*

Eli Lilly and Co
4 Story Quality Control Laboratory*

Higher Education-

University of Rochester
Vivarium Addition*

University of Illinois - Chicago
Vivarium*

Military Education-

Camp Dawson, WV
Multi-Purpose Building

* Projects during tenure with other architectural firms.

Silvie Marlette, Associate AIA
Construction Administration

Education

University of Wisconsin-
Milwaukee
B. Science in
Architecture

Silvie's primary interest and skills are in the construction administrative process which she has demonstrated in a number of projects. She established the Morgantown, West Virginia office in 2008. She also manages that office and is building manager.

Professional Affiliations

American Institute of
Architects

US Green Building
Council

Silvie's comprehensive construction administration duties have included daily site visits and reports, submittal processing and review, contractor meetings and record keeping skills. Review contractor pay application and relationship to material costs and project completeness. She has managed construction projects from ground breaking to punch out.

Her experience also includes extensive existing building documentation.

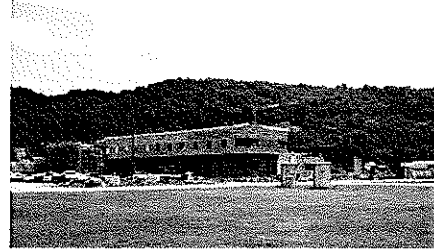
Selected Experience:

UW Madison

- The Highlander Private Residence Hall
- The Langdon Private Residence Hall
- The Towers Private Residence Hall
- Study for a new Physical Plant Building - Lot 51
- Babcock educational/research Renovation

National Guard Bureau

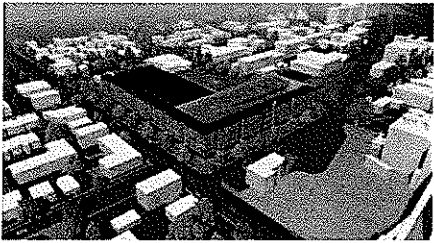
- Camp Dawson Master Plan
- Joint Interagency Training Center
-Preliminary Design
- Armed Forces Reserve Center Addition-WV
- Mountaineer Challenge Academy



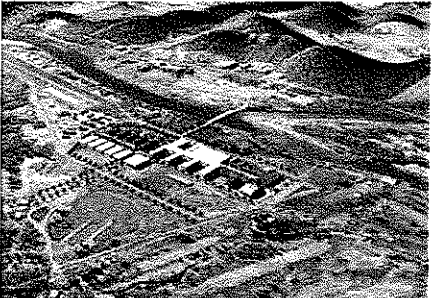
Mountaineer Challenge Academy
Camp Dawson



Kingwood Readiness Center
Kingwood, West Virginia



UW Physical Plant Study - Lot 51
Madison, Wisconsin



Camp Dawson Master Plan, rendering of completed
master plan
Kingwood, West Virginia

Evan Weir
Architectural Design

Education

Kansas State University
B. Arch

Professional Affiliations:

American Institute of
Architects

UW Green Building
Council (USGBC)

Evan gained experience working on a variety of medical research, loft renovations, and state park projects while working in Kansas City, Missouri. Since graduating cum laude from Kansas State University, he had the opportunity to work on research facilities including: Pacific Northwest National Laboratories, and the US Army Institute for Chemical Defense.

As an architectural designer, Evan has been involved in project phases ranging from programming and schematic design to construction administration. He also has extensive experience in construction documentation. Evan's professional experience has given him the chance to work closely with government agencies on technically complex research facility projects

Evan has also worked on several LEED projects, and is currently in the process of becoming a LEED accredited professional.

Selected Experience:

University of Texas, Houston
Institute of Molecular Medicine*

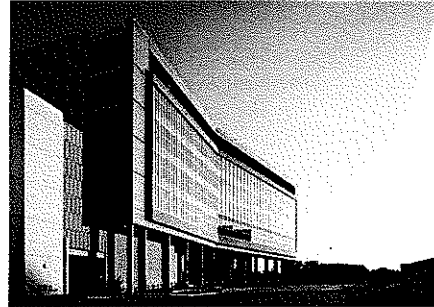
State of Missouri
Rock Bridge State Park Education Center*

US Department of Energy and Battelle
Pacific Northwest National Laboratories*

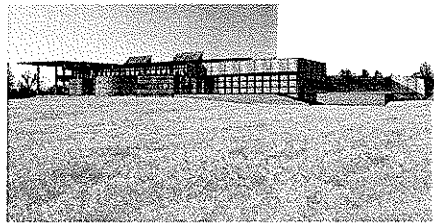
Department of Defense
United States Army Institute for Chemical
Defense*

State of Wisconsin
Rehab Shower Facilities for Military Affairs
Armory Alterations for Military Affairs

*Projects during tenure with other architectural firms



Institute of Molecular Medicine
Houston, Texas



Rock Bridge State Park Education Center
Columbia, Missouri



Pacific Northwest National Laboratories
Richland Washington

Scott A. Easton, LEED® AP
Principal-in-Charge/Project Manager

Education

Bachelor of Science
Architectural Engineering
University of Kansas

Registration/Certification

LEED® Accredited Professional

Professional Societies and Activities

Instructor - Basic Lighting Design
Course for the University of
Wisconsin Professional
Engineering Development
Department

Instructor - Intermediate Lighting
Design Course for the University of
Wisconsin Professional
Engineering Development
Department

Instructor - Electrical Building
Systems course for the University
of Wisconsin

Speaker - Wisconsin Energy
Initiative, Energy Code
Presentation

Speaker - "Campus and Building
Energy Cost Reduction Initiatives –
Strategies that Work"
Tradeline, 2002, 2001

Speaker - "Trends in Research &
Development Building Design"
Harvard University, July 2001

"Specifier's Notebook"
Consulting Specifying Engineer

Member - Illuminating Engineering
Society of North America

Experience and Key Projects

Mr. Easton is a Principal with AEI and leads the firm's Commercial practice which includes historic preservation, corporate office complexes and cultural facilities. His experience also includes significant design assignments for research, higher education, and healthcare facilities.

Mr. Easton's education is as an electrical engineer. His special interest in lighting systems led to the development of the firm's in-house lighting design studio, Pivotal®.

Mr. Easton is Lighting Certified by the National Council of Qualifications for the Lighting Professions (NCQLP). The lighting certification exam given by the NCQLP is comprehensive and covers both knowledge and application of lighting principles.

Mr. Easton is a guest lecturer for professional development and engineering courses at the University of Wisconsin, teaching basic and intermediate lighting design. He is an instructor for Electrical Systems Design for Non-Electrical Engineers, an undergraduate class in the Construction Management program at the University of Wisconsin. He also chaired a subcommittee for the Illuminating Engineering Society, responsible for developing a new technical guideline "Lighting for Scientific Laboratories and Research Facilities."

Selected project experience includes:

University of Wisconsin - Engineering Centers - Madison,

Wisconsin: Lead Lighting Designer for this 204,000 sf engineering educational facility. The building houses laboratories, career services, large multi-media meeting rooms, workshops, offices and discovery centers for students and faculty. Challenges included custom luminaire design for the student discovery center and four-story atrium, which extends the length of the building.

University of Wisconsin-Madison – Wisconsin Institutes for

Discovery – Madison, Wisconsin: Lighting Designer for the Mechanical and Electrical design services for this 300,000 sf complex, whose goal is to enhance the interaction between the schools of computer science, engineering, biology, medicine and physical sciences. The building houses classrooms, reconfigurable laboratories, research facilities, retail space, meeting rooms and is expected to be a destination point for visiting researchers. The center also provides distance learning seminars and interactive web-based programs for the UW System as well as innovative, hands-on science education programs for graduate, undergraduate and K-12 students and teachers. Sustainability initiatives include 50% reduction in water use, on-site native habitat and 80% recycling and waste diversion. This project is LEED Registered.

Chair – IESNA Sub Committee;
Lighting for Scientific Laboratories
and Research Facilities

Employment History

1995 – Present Affiliated
Engineers, Inc.

Scott A. Easton, LEED® AP
Principal-in-Charge/Project Manager

College of William and Mary – Tucker Hall Renovation – Williamsburg, Virginia: Project Manager for the interiors renovation of this 26,833 sf facility built in 1909. AEI is providing the design for new MEP systems in this facility which houses the Department of English, the Writing Resources Center, and the Charles (interdisciplinary studies) Center.

University of Wisconsin – Biotechnology Center – Madison, Wisconsin: Lighting Designer and Electrical Engineer for MEP design of new 86,000 sf research facility which will house a genome center, a genetics lab, a vivarium, and outreach and teaching facilities.

University of North Carolina - Science Complex, Phase I - Chapel Hill, North Carolina: Lighting Designer for a multi-story 90,000 sf laboratory addition with interconnections to the existing Phillips Buildings and a new multi-story 113,000 sf Wilson-Dey Laboratory Building. The buildings will house basic sciences departments and provide space for interdisciplinary activities such as materials science, polymer science, nanotechnology, separation science, applied mathematics, sensor technology and advanced visualization.

King Abdullah University of Science and Technology – Thuwal, Kingdom of Saudi Arabia: Project Manager for the Commons and University Center buildings on this five million sf campus, which is a component of a master-planned community on the Red Sea. The University's vision is a world-class, graduate-level research institute; it is comprised of research laboratory, administrative, cultural and academic buildings – all of which are seeking LEED Platinum.

Amgen Inc - Building AC27 - Longmont, Colorado: Lighting Designer for this Campus Administration Building. Challenges included lighting design for the campus cafeteria and training facilities.

Northwestern Mutual – Franklin Campus Phase I – Franklin, Wisconsin: Lighting Designer for the conceptualization and lighting simulation for this four-phase campus totaling two million sf. Phase I is a 550,000 sf five-story building with offices, a cafeteria seating 600, a 20,000 sf data center, a training center and a 900-space parking facility housing a central utility plant.

Northwestern Mutual – Franklin Campus Phase II – Franklin, Wisconsin: Principal-in-Charge and Project Manager for this six-story, 400,000 sf project, which is Phase II in Northwestern Mutual's four-phased Franklin Campus. This project features a 100-seat tiered auditorium, building automation systems, direct digital controls, under floor air distribution, variable air volume control (VAV), and video teleconferencing. By using the raised floor system for electrical and low voltage systems distribution, the design affords a high degree of flexibility, accommodating future changes in furniture layouts without the need for time consuming or costly revisions to the building's infrastructure

Daniel D. Schmitz, PE
Mechanical Engineer

Education

Bachelor of Science
Mechanical Engineering
North Dakota State University

Bismarck State College
Associate of Science
Pre-Engineering

Registration

Registered Professional Engineer

Professional Societies and Activities

Member - American Society of
Plumbing Engineers (ASPE)

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

Member - National Fire Protection
Association (NFPA)

Employment History

2000 – Present	Affiliated Engineers, Inc.
1995 – 2000	SSR Engineers, Inc.
1993 – 1995	Henning Metz Hartford & Associates
1990 – 1993	Beazley Engineering, PC
1988 – 1990	Crisafulli Pump Company

Experience and Key Projects

Mr. Schmitz is a mechanical engineer with experience in the design of heating, ventilating and air conditioning (HVAC), plumbing; fire protection and process pipe systems. He has analyzed and designed systems for various types of facilities. Mr. Schmitz's project work has included field measurements, system control and hydraulic analysis, load calculations, system layout and other design considerations associated with HVAC systems

Selected project experience includes:

College of William and Mary – Tucker Hall Renovation – Williamsburg, Virginia: Mechanical Engineer for the interiors renovation of this 26,833 sf facility built in 1909. AEI is providing the design for new MEP systems in this facility which houses the Department of English, the Writing Resources Center, and the Charles (interdisciplinary studies) Center.

Iowa State University – Agricultural and Biosystems Engineering and Biorenewables Research Laboratory (BRL) – Ames:

Mechanical Engineer for MEP/IT and sustainable design of these biorenewables research, education, and outreach facilities, which include a 600-car four-story parking structure and areas for plant science, production, biochemical and thermochemical processing, and utilization. The design for the 58,000 sf BRL includes cold rooms, computer laboratories, and fume hood exhaust systems. In consideration of LEED® certification guidelines, AEI is investigating a geothermal system for the administrative offices. Non-toxic laboratory exhaust will be vented through heat recovery wheels. The designs also include building automation controls, fire protection systems, and the integration of IT, chilled water, and steam systems into campus networks.

Indiana University – Simon Hall – Bloomington, Indiana:

Mechanical Engineer for the MEP systems design of this new facility which includes space for biochemistry, biophysics and proteomics, genomics and bioinformatics, atmospheric, biogeo and environmental chemistry, protein crystallization and neuroscience and a plant growth facility. Sixty-four percent of the facility is dedicated to lab space, a portion of which is a BSL3 designated space. The facility also contains a Class 1,000 cleanroom. A portion of the facility is dedicated to common or shared space. A two-story atrium was also constructed. AEI conducted a DOE3 1 analysis and made MEP design recommendations to the client that helped them avoid over \$2 million in infrastructure upgrades.

Daniel D. Schmitz, PE
Mechanical Engineer

Indiana University – Multidisciplinary Science Building II – Bloomington, Indiana: Mechanical Engineer for the mechanical, piping and fire protection design services for this 120,000 sf facility. The facility will support atmospheric, biogeochemical and neuroscience programs. The University's goal is to attain LEED Gold certification. AEI's design includes an efficient heat recovery system and molecular sieves for both laboratory and non-laboratory spaces.

Confidential Client – Building 88, Chemistry and Bioscience Laboratory – Midwest: Lead Mechanical Engineer for the renovation of a five-story, 250,000 sf chemistry and bioscience laboratory and office building.

Confidential Client - Biology Laboratory - Midwest: Mechanical Engineer for the design of Building 38, the new 580,000 sf biology research laboratory and office facility through construction documents. Building 38 includes a 80,000 sf vivarium. The design included new site utility package that would support the growing campus. This design also included the demolition and future addition of the east section of Building 28. The Building 28 addition was a five-story, 200,000 sf office building that included a cafeteria and auditorium. Due to economic reasons, the construction of both Buildings 38 and 28 were put on hold indefinitely.

State of New York - Department of Environmental Conservation – Alternative Fuel Vehicle Research Laboratory – Malta (Albany), New York: Mechanical Engineer for the design and test equipment integration of this 70,000 sf technical center. Facility highlights include the following:

- Hydrogen, biodiesel, ethanol and alternative fuel ready
- Post/2007-2010 EPA emissions regulations
- Nano particle characterization
- Hybrid drivetrains

Guy R. Wilson, PE
Electrical Engineer

Education

Bachelor of Science
Electrical Engineering
University of Missouri-Columbia

Registration/Certification

Registered Professional Engineer

Professional Societies and Activities

Speaker – “Electrical System Design for the Non-Electrical Engineer” – University of Wisconsin, Department of Engineering Professional Development (2005, 2006, 2007)

Employment History

2001–Present	Affiliated Engineers, Inc
1997–2001	Potter Lawson Inc.
1986–1997	Boeing Commercial Airplane Company

Experience and Key Projects

Mr. Wilson is an accomplished electrical engineer in the design of power and distribution, UPS and emergency generators, lighting, access/security, fire alarm, and communications systems. He is responsible for developing basis of design criteria, engineering specifications and calculations, developing electrical single-line and floor plan diagrams, client contact, coordination with other disciplines, scheduling and report writing. His expertise includes knowledge of the special electrical requirements for sophisticated facilities, such as medical, performance venues, manufacturing, data centers and multi-building campus environments.

Selected project experience includes:

University of Illinois at Urbana-Champaign – Thomas M. Siebel Center for Computer Science – Champaign, Illinois:

Electrical Engineer for the MEP/IT/Lighting design of a new computer science teaching facility of over 270,000 sf. This living laboratory integrates research and education with a vision of 21st century computing that embraces smart spaces and intelligent environments. In addition to faculty offices, lecture halls and “smart” classrooms, the facility includes a parallel computing lab and A/V capability for distance learning and real-time collaborative research for both undergrad and graduate students.

Epic Systems Corporation – Corporate Headquarters – Verona, Wisconsin:

Electrical Engineer for the MEP and fire protection design services for this new corporate campus. Phase I of the building program is five structures totaling 540,000 sf and a parking garage. Spaces include private offices, conference rooms and training spaces. In addition, the headquarters facility includes spaces for food preparation, serving and dining space for 600, a central computer room, loading/receiving dock areas, and general building storage.

College of William and Mary – Tucker Hall Renovation – Williamsburg, Virginia:

Electrical Engineer for the interiors renovation of this 26,833 sf facility built in 1909. AEI is providing the design for new MEP systems in this facility which houses the Department of English, the Writing Resources Center, and the Charles (interdisciplinary studies) Center

University of Wisconsin – Hillel Foundation – Madison, Wisconsin:

Project Manager and Electrical Engineer for this 40,000 sf student center. AEI was selected to provide complete MEP/FP/IT and lighting design and documentation services. The four-story structure will house meeting and receiving areas, offices, a library, food service facilities, study areas, an exercise area, locker rooms, and several multi-purpose rooms. The client is pursuing LEED certification.



Guy R. Wilson, PE
Electrical Engineer

University of North Carolina - Science Complex Phase I - Chapel Hill, North Carolina: Electrical Engineer for the design of a multi-story 90,000 sf laboratory addition. This facility has interconnections to the existing Phillips Buildings and the new multi-story 113,000 sf Wilson-Dey Laboratory Building. The buildings will house basic science departments of physics, astronomy, chemistry and math

State University of New York/Stony Brook University - Advanced Energy Research and Technology Center – Stony Brook, New York: Electrical Engineer for this 50,000 sf facility which provides for work on various types of alternative fuels and fuel sources. The aim is to combine energy research with modeling and simulation, testing and evaluation. AEI's MEP design includes many energy efficient and conserving systems such as heat wheels, chilled beams, solar thermal systems, high efficiency boilers and chillers, rain water collection systems, and photovoltaics. In addition to these systems AEI developed a system to neutralize the building's lab waste before it is sent into the facility's septic tank. The client is pursuing LEED Platinum.

Western Illinois University – Performing Arts Center – Macomb, Illinois: Electrical Engineer for the MEP/T/FP design services for this new 120,000 sf performing arts center, including a 1,400-seat proscenium main theatre, a 250-seat thrust stage, a 150-seat studio theatre, and other support spaces.

University of Colorado at Boulder – Visual Arts Complex – Boulder, Colorado: Electrical Engineer for this 148,075 sf Visual Arts Complex, which will house the Department of Art and Art History, as well as the University of Colorado Art Museum. The design incorporates environmentally sustainable building strategies for water savings, energy efficiency, materials selection, and indoor environmental quality.

University of Illinois at Urbana-Champaign – Krannert Center for the Performing Arts Life Safety Corrections – Champaign, Illinois: Electrical Engineer for this life safety system project, which addressed outstanding life safety issues in the 491,656 sf facility by improving fire suppression, fire alarms, emergency lighting, and exit signs in several priority areas.

Panduit Corporation – Corporate Office Complex – Orland Park, Illinois: Electrical Engineer for master plan of a new site and MEP/FP design services to build Class A office space. The master plan includes projections for a year 2029 capacity of employees at approximately 500,000 sf and the MEP/FP design services include a projected year 2019 capacity of approximately 250,000 sf. Support spaces include a data center, conference center, cafeteria, and fitness center. Sustainable goal is Gold LEED

Larry D. Powers

Senior Piping/Plumbing Project Designer

Education

General Degree
Wisconsin Academy

Professional Societies and Activities

Member - American Society of
Plumbing Engineers

Employment History

1978 – Present Affiliated
Engineers, Inc.
1977 – 1978 Arnold &
O'Sheridan, Inc.
1969 – 1977 Olson &
Associates, Inc.

Experience and Key Projects

As a Senior Piping Project Designer, Mr. Powers worked on numerous types of facilities from historic renovations to office, research and healthcare facilities. His collective experience and leadership ability makes him an ideal team member. His responsibilities have included the production and coordination of detailed piping flow diagrams, piping isometrics, piping floor plans and piping specifications. Mr. Powers has also been very successful with the overall coordination of the piping work effort and the resolution of piping design issues, as well as coordination with the client and other design team members.

Selected project experience includes:

University of Illinois – Thomas M. Siebel Center for Computer Science – Champaign, Illinois: Senior Piping/Plumbing Designer for the MEP/IT/Lighting design of a new computer science teaching facility of over 270,000 sf. This living laboratory integrates research and education with a vision of 21st century computing that embraces smart spaces and intelligent environments. In addition to faculty offices, lecture halls and "smart" classrooms, the facility includes a parallel computing lab and A/V capability for distance learning and real-time collaborative research for both undergrad and graduate students.

Oakton Community College – Chemistry Laboratory Remodeling – Skokie, Illinois: Piping/Plumbing Designer for the MEP design to convert 3,000 sf of existing computer lab space into two Life Science instructional classrooms plus a science preparation room.

The Loctite Corporation – Administration and Adhesives Research Building – Rocky Hill, Connecticut: Senior Piping/Plumbing Designer for MEP programming and design of a 190,000 sf facility with 70,000 sf dedicated to the research of adhesives and polymers. The facility also includes 100,000 sf of executive offices and administrative areas, a computer room, a cafeteria and a library. An additional 20,000 sf is designated for training.

Wyeth - Vaccines and Pediatrics – Rochester, New York: Senior Piping/Plumbing Designer for programming, conceptual planning and design of a new 80,000 sf vaccine research facility. This facility houses most of the research functions of Wyeth-Lederle vaccines and pediatrics, including laboratory and corporate administration, research labs, training, a library and support staff.

Larry D. Powers

Senior Piping/Plumbing Project Designer

Western Illinois University – Performing Arts Center – Macomb, Illinois: Piping Designer for the MEP/T/FP design services for this new 120,000 sf performing arts center, including a 1,400-seat proscenium main theatre, a 250-seat thrust stage, a 150-seat studio theatre, and other support spaces. The center creates an arts quadrangle on the south campus.

City University of New York – City College of New York – CCNY/ASRC Science Project – New York, New York:

Piping/Plumbing Designer on the master planning team for the South Campus of CCNY including all existing buildings and the three new buildings proposed for the science complex (CCNY Science, ASRC I and ASRC II). The urban site consists of 760,000 sf of space.

University of Illinois – College of Medicine Research Facility – Chicago, Illinois:

Senior Piping/Plumbing Designer for the MEP/T design and Commissioning services for this new nine-story, 334,500 sf research facility and renovation of adjacent facilities.

University of Wisconsin - Madison – Walnut Street Research Greenhouse Replacement – Madison, Wisconsin: Piping/Plumbing Designer for this project that includes 19,600 sf of new greenhouse and a 17,200 sf headhouse remodel.

Eli Lilly and Company – Pharmaceutical Development Initiative – Indianapolis, Indiana:

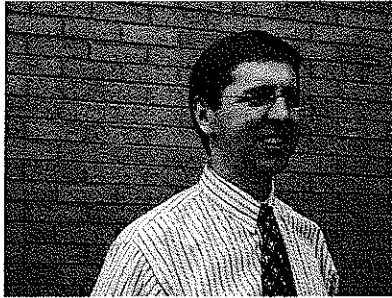
Senior Piping/Plumbing Designer for the renovation of approximately 260,000 sf of existing lab, storage and cafeteria space into new, flexible, modular, state-of-the-art, team-oriented laboratory and formulation areas.

National Children’s Museum – Washington, DC: Piping Designer for this new, 150,000 sf children’s museum which replaces the Capitol Children’s Museum (closed in 2004). AEI is providing MEP/FP design services for the facilities which will include a 12,000-15,000 sf outdoor garden/exhibit space, three major exhibit spaces, gift shop, café, theater for performances, classrooms, administrative offices, loading dock, archival and exhibit storage, workshop, and MEP support spaces. LEED Certification is a goal for the project.

Bausch & Lomb – Optics Center Laboratory – Rochester, New York:

Senior Piping/Plumbing Designer for design of the optics center laboratory which contains 100,000 sf, supporting the R&D of personal and professional products. The facility, located adjacent to existing administrative offices and production facilities, houses over 200 researchers and supports analytical, biological, chemical and physical research, as well as quality assurance testing and formulations development.

Resume



Douglas R. Richardson, P.E.
President/Structural Engineer

Education

North Carolina State University, (8/87-5/89).

Masters of Science in Civil Engineering, major in structures and minor in construction.

GPA 4.0/4.0.

West Virginia University, (8/83-8/87)

Bachelors of Science in Civil Engineering.

Ranking: 1st out of approximately 450 College of Engineering graduates. GPA 3.98/4.0.

Professional Registration

Professional Engineer - WV #11699, MS #12349

Maintains active record with NCEES to facilitate prompt registration in additional states as required.

Professional Affiliations

American Society of Civil Engineers

American Concrete Institute

American Institute of Architects, Professional Affiliate

Structural Engineering Institute

Timber Framers Guild

US Green Building Council



Resume



FaLena R. Perry, E.I.T.
Project Manager/Structural Engineer

Education

University of Kentucky, (8/03-12/05).

Masters of Science in Civil Engineering,
Structural emphasis.

University of Kentucky, (8/98-8/03).

Bachelors of Science in Civil Engineering,
Structural emphasis.

Professional Registration

Engineer In Training

Professional Affiliations

Structural Engineers Association of Kentucky

American Concrete Institute

American Institute of Steel Construction

Experience

500's on Main, Lexington, KY. 167,000 s.f. Mixed

Use Development spanning a city block

Kentucky Outdoor Arena and Hospitality Building.

10,000 seat equestrian arena with hospitality
suites.

MacAdam Student Observatory. Modularly con-
structed steel frame observatory.

New Science Building, Eastern Kentucky University.

180,000 SF Classroom and laboratory facility.



David G. Sawitzki, PE
Geotechnical Branch Manager

Education

University of Waterloo:
Master of Science
Civil Engineering

Princeton University
Bachelor of Science
Civil Engineering

Professional Registration

Engineering: KY FL

Professional
Affiliations:

American Society
of Civil Engineers

Kentucky Society
of Professional Engineers

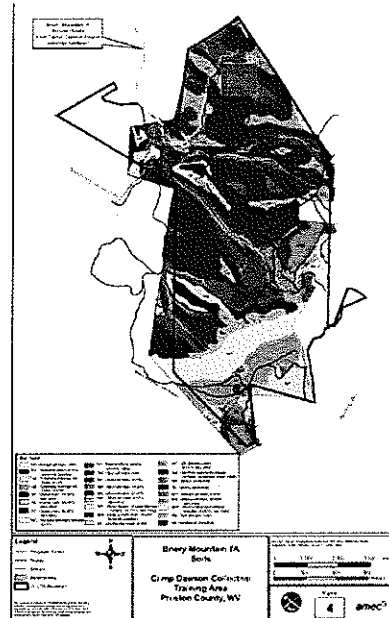
National Society
of Professional Engineers

Society of American Military
Engineers

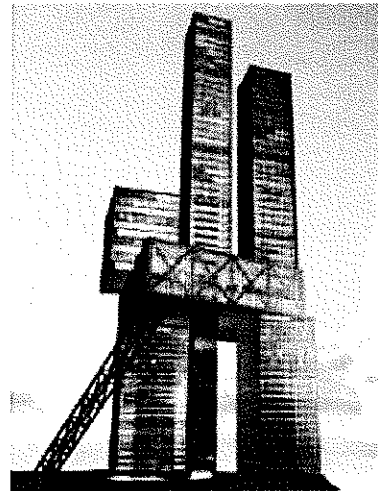
American Public
Works Association

Mr. Sawitzki has 17 years of multi-disciplinary engineering experience. He has worked on numerous projects ranging from foundation analyses, retaining wall design, and slope stability analyses. He has developed subsurface exploration plans to define subsurface conditions and laboratory testing programs to evaluate soil properties for various types of projects. Mr. Sawitzki has performed slope stability analyses using multiple slope stability programs including UTEXAS2 and UTEXAS3, seepage analyses using two-dimensional finite difference and finite element programs including SEEP2D, and also has experience conducting settlement, bearing capacity, and other types of geotechnical analyses related to the use of geosynthetic materials.

- **WVARNG MRF Range; Camp Dawson, WV** - Scope: A new MRF range on rough, mountainous terrain. Directed layout, support, geotechnical borings, laboratory testing program, and geotechnical engineering recommendations. Ongoing coordination with civil and structural designers has been necessary to optimize rock and soil bearing foundations, which will result in a cost-effective solution. Project is ahead of schedule and within budget. Role: Mr. Sawitzki is currently serving as the geotechnical project manager, and has played a key role in integrating the various disciplines on the project.
- **Geotechnical IDIQ USACE Louisville District; Louisville, KY** - Scope: Lead task order manager and point of contact for AMEC with USACE Louisville District to provide AE geotechnical services. This 3-year, \$3 million multi-task contract supports the Corps' geotechnical mission relative to a broad range of geotechnical needs. To date, the Corps has identified 8 individual task orders for FY 2008, including major drilling programs at 4 Corps dams totaling several thousand feet of rock and soil borings, laboratory testing, and geophysical investigation. Mr. Sawitzki has successfully managed multiple concurrent task orders.
- **Ft. Knox Lodge, Ft. Knox Military Reservation, KY** - Scope: A five-story hotel complex. Provided geotechnical and construction observation and materials testing services as a design-build team member. Provided full geotechnical investigation of borings and laboratory testing supporting geotechnical recommendations. Directed oversight, consultation, and recommendations throughout construction to support DB team. Role: Mr. Sawitzki was project manager and geotechnical engineer-of-record.



Camp Dawson
Modified Record Fire Range
Kingwood West Virginia



Museum Plaza Complex
Louisville Kentucky

- **USACE Louisville McA Alpine Lock Replacement; Louisville, KY** - Scope: Onsite testing laboratory to complete QA testing for the Corps of Engineers. Complete testing and a fulltime staff of up to seven personnel around the clock provided the Corps with the needed QA testing services for more than five years. Received predominantly above average and outstanding CCASS ratings. Role: Mr. Sawitzki was the project manager and effectively managed a large team of testers over an extended period of time.
- **Marmet Lock Replacement, Belle, WV** – Mr. Sawitzki was AMEC's project manager to support the QA Testing requirements. In 2004, AMEC was initially selected by the USACE Huntington District to provide Quality Assurance (QA) Services for the Marmet Lock Replacement project through a small business solicitation as a subcontractor to Augusta Engineering, Charleston, WV. Subsequent delivery orders were negotiated with AMEC using the capacity from an established IDIQ contract in place with another Corps district. The Marmet Lock and Dam is located on the Kanawha River about 20 miles upstream from Charleston, WV, and the replacement project includes excavation of millions of cubic yards of soil and rock to allow for construction of a new 110 x 800' lock chamber. Total construction costs are on the order of \$275 million. The QA testing contract is ongoing with an estimated total value of \$1 million dollars over a 3-year period. AMEC provides 2 fulltime technicians to monitor concrete batch plant operations, lime-stabilized soil compaction, laboratory aggregate, soils and concrete testing, and construction observation and monitoring.
- **Proposed Rotary Wing Aviation Facility, Preliminary Siting Study, MNARNG** - Scope of Work: Three potential locations for a new facility to house and service aircraft for the Minnesota Army Reserve. Preliminary site preparation and foundation recommendations were prepared to evaluate the relative geotechnical costs of building the hangar at three separate airports; Holman Field (St. Paul, MN); St. Cloud, MN airport; and Mankato, MN airport. The geotechnical and laboratory testing services included borings up to 60 feet deep to evaluate soft sediments that could cause foundation problems for the 220,000-square-foot hangar that was designed to have maximum column loads of 500 kips. Completed on time and within budget. Role: Mr. Sawitzki was project manager responsible for preliminary geotechnical site assessments.
- **Museum Plaza Complex; Louisville, Kentucky** - Principal-in-charge for a geotechnical study to provide engineering recommendations for deep foundations to support a 62-story high rise development. The development includes a 6-level, post-tensioned concrete parking garage with a 3-legged superstructure that ultimately rises 62-stories. A series of large diameter (6 to 10 feet) drilled shafts were designed to convey the building loads to underlying bedrock at depths of about 70 feet below the lowest structural levels. In addition to the drilled shafts, the foundation system included an auger-cast-in-place pile supported mat foundation to support portions of the parking garage and exterior building column loads. Two-dimensional finite element seepage analyses were performed to model the impacts of the new development on the existing floodwall and seepage cutoff details.
- **Muhammad Ali Center Parking Garage, PARC, Louisville, KY** - Project manager for a geotechnical study to provide engineering recommendations for deep foundations to support a three-story post-tensioned concrete parking garage for the Parking Authority of River City (PARC), and subsequently a four-story museum and plaza area. Foundation recommendations included installation of approximately five hundred 150-ton capacity auger cast-in-place piles. The project included design considerations for removal of over 20 feet of urban renewal fill and native soils to allow for below grade construction. Located immediately adjacent to the 'wet' side of the Louisville Flood Wall project, directives included coordination of excavation shoring design components with the US Army Corps of Engineers. Mr. Sawitzki also managed QA / QC services for site grading, concrete components, foundation construction, and pavement installation.



- **Waterfront Park Place Condominium Development, Waterfront Park Place LLC, Louisville, Kentucky-** Project manager and engineer-of-record for a geotechnical study to provide engineering recommendations for deep foundations to support a 22-story residential building on the Ohio River waterfront. The project was part of an overall waterfront revitalization by the City of Louisville. Foundation recommendations included installation of over 400 auger cast-in-place piles. Mr. Sawitzki also managed QA / QC services for site grading, concrete components, foundation construction and pavement installation.



David Hasty Jr. PE
Project Manager

Education

University of Missouri
Master of Civil Engineering

University of Missouri
Bachelor of Civil Engineering

Professional Registration

Engineering: IL IN KS, MN
MO, NC TX

Professional
Affiliations:

American Society of Civil
Engineers

National Society of
Professional Engineers

Missouri Society of
Professional Engineers

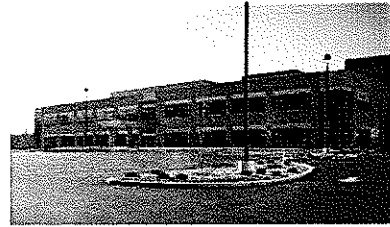
Engineers Club of St. Louis

Missouri Floodplain & Storm
Water Managers Association

Mr. Hasty has 21 years of professional civil engineering experience in public works and municipal projects as well as experience in all phases of commercial institutional, and industrial land development. Responsibilities have included site and civil engineering, project management, and interdisciplinary coordination. Mr. Hasty's municipal experience includes public roadways, sanitary relief sewers, storm water collection systems, creek bank stabilization, floodplain / floodway mapping construction cost estimates, and specifications. His land development experience includes land planning, site layout, site grading public and private utility distribution systems, sanitary sewer systems, storm water collection systems, storm water detention facilities, floodplain hydrology / hydraulics and floodplain recovery studies, land disturbance permits CLOMR's / LOMR's, 404 permits, 401 permits construction cost estimates and specifications.

Mr. Hasty's role in this project will include site and civil engineering layout grading parking and utilities.

- **Sunset Point, St. Louis, MO** - Project manager of a 60-acre office / retail development. Improvements include 176,000 square feet of office space and 620,000 square feet of retail space. Services provided include zoning, surveying, site layout, site grading and drainage site utilities, street improvements, a slip ramp connected to I-44, and signalized entrances through schematic design.
- **Big Bend Crossing, St. Louis, MO** - Project manager of a 17.5-acre retail development. Improvements included a 130,500-square-foot Sam's Club facility with 600 parking spaces and 3 out-lots totaling 4 acres. Services provided include zoning, surveying, stormwater drainage and detention design, and permitting.
- **Arnold Recreation Center, Arnold, MO** - Project manager for a 6-acre community center development. Improvements included a 56,810-square-foot recreation building outdoor pool and a 318-space parking lot.
- **Des Peres Hospital - Medical Arts Pavilion, St. Louis, MO** - Project manager of a 14-acre medical office building development. Improvements included two 50,000-square-foot buildings with 590-space parking lots.
- **Special Treatment Unit, Fulton, MO** - Project manager for a 10-acre youth rehabilitation facility (housing units, classrooms, kitchen, gymnasium, ball field, and outdoor recreation area), including 700 feet of access roadway; parking and a loading area; a 3,300-foot sanitary sewer extension; utilities; grading for maximum security; and all siting of buildings.
- **Webster University Utility Extension, St. Louis, MO** - Project manager for survey and design of 10,700 lineal feet of water main, chilled water natural gas, and electric conduit through an existing college campus. The design included route selection and hydraulic analysis.



Des Peres Hospital
Medical Arts Pavilion
St. Louis Missouri

- **Lake Chesterfield Erosion Analysis, St. Louis, MO** - Project manager for survey and analysis of rainfall erosion, sediment runoff, and sediment deposition generated by a 211-acre residential development. The project included estimating a volume of sediment runoff for an 8 5-year period.
- **Two Mile Creek Floodplain Study, St. Louis County, MO** - Project engineer for analysis and hydraulic design of 700 lineal feet of concrete box culvert. Analysis included determining the 100-year flooding elevations and flooding limits
- **Reis Road Floodplain Study, Ballwin, MO** - Project manager for analysis and hydraulic design of a double 7'-0" h x 8'-0" w, and a single 6'-6" h x 10'-0" w box culvert, channel realignment, and channel improvements on tributaries to Fishpot Creek. Analysis included determination of the 100-year flooding elevations and flooding limits along 1 180 lineal feet of creek



Martin J. Marchaterre, JD
Senior Environmental Planner

Education

Marshall-Wythe School
of Law, College of William
and Mary
Juris Doctorate

Williams College
Bachelor of History
and Political Science

Professional Registration

Virginia Bar Association -
Environmental Law Section
Military Law Section

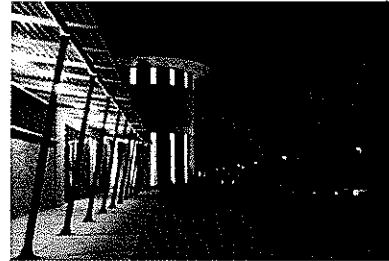
District of Columbia Bar
Association - Environmental
Energy and Natural
Resources Section

Mr. Marchaterre has over 19 years of environmental, regulatory, policy, and permitting experience working as a consultant to federal agencies, states, local governments, and private industry. His experience applicable to this project includes managing projects concerning permitting, environmental assessments storm water management, and land use. He has managed consulting service projects for the USEPA USACE, ARNG, Navy, municipalities and private corporations and utilities.

Mr. Marchaterre has managed projects concerning air quality analyses, traffic noise studies, noise barrier analyses, biological assessments, wetlands identification, delineation, and monitoring, historic and archaeological surveys, stream mitigation permitting and NEPA documentation

He will address stormwater management permit applications and any other environmental permitting for this project

- **Water Resources Management Plan, Camp Dawson, WV** – Managed preparation of a water resources management plan for the West Virginia Army National Guard for Camp Dawson (approximately 3,797 acres) Assessed current availability of data regarding Camp Dawson water resources including four streams and numerous tributaries. Conducted site visits and recommended management goals for surface water, wetlands, floodplains, and groundwater resources
- **Conceptual Master Plan, Camp Dawson, WV** - Managed preparation of a conceptual master plan for the Camp Dawson Cantonment Area and the Volkstone Training Area. The conceptual master plan assisted in setting strategic goals for the mission and vision of the base. The conceptual master plan will be the starting point for a more detailed Real Property Master Plan to be prepared in accordance with applicable National Guard regulations
- **Structural Assessment and Concept Plan for Volkstone Training Area, Camp Dawson, WV** – Managed a structural assessment of existing facilities at the Volkstone Industrial Complex. The assessment determined the structural integrity of existing buildings, evaluated potential salvage value of scrap steel materials, and investigated whether asbestos containing materials can be found in any of the structures. AMEC saved the West Virginia Army National Guard unnecessary expenses by georeferencing a previous topographic survey and avoiding a new site survey. AMEC conducted a charrette to consider potential ideas for redeveloping the Volkstone Training Area. Prepared a concept plan including 3-dimensional visual materials



Camp Dawson
Regional Training Institute
Kingwood, West Virginia



Streams Assessed for Camp Dawson
Water Resources Management Plan
Kingwood West Virginia

- **Design, Mitigation, and Geotechnical Services for Modified Record Firing Range, Camp Dawson, WV** – Managed some of the design components of the modified record firing range. Identified erosion and sedimentation controls and coordinated with state and Federal agencies on mitigation and permitting issues. Developed alternatives to minimize impacts to stream and wetlands. Helped optimize target elevations to minimize required earthwork
- **Environmental Assessment for Indiana Army National Guard, Camp Atterbury, IN**– Preparing an EA for a multi-purpose machine gun range. Analyzing air quality; noise; geology, topography and soils; ground and surface water resources; biological resources, including vegetation, wildlife, wildlife habitat and threatened and endangered species, and wetlands; cultural resources; socioeconomic environment and human health and safety, environmental justice; infrastructure; and hazardous and toxic materials and wastes. Due to potential mitigation costs for wetlands and Federally-endangered Indiana bat impacts, recommended shifting the MPMG range location



David K. Kuehnen, PE
Civil Engineer

Education

University of Memphis
Bachelor of Civil Engineering

Professional Registration

Engineering: TN

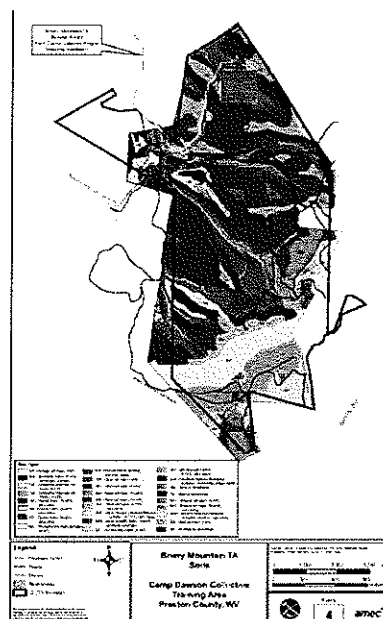
Professional Affiliations:

American Society of Civil Engineers

Mr. Kuehnen has 13 years of experience in civil and environmental engineering, completing projects for public and private clients. His work for the Federal government includes completing projects for the Army Corps of Engineers and other agencies involving recreational and transportation facilities. Mr. Kuehnen has also completed numerous health care, industrial, commercial, and residential site development plans for the private and public sectors. His areas of expertise are in civil site design and site master planning. Additionally, he has 14 years of experience in Computer Aided Design and Drafting (CADD) as well as 13 years of experience with Inroads and Siteworks land development software.

Mr. Kuehnen will provide site / civil engineering for the project

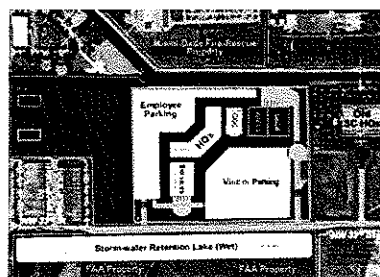
- **West Virginia Army National Guard (WVANG)** – Armed Forces Readiness Center, Ripley WV – Civil engineer responsible for the planning charrette and initial site layout for a new Armed Forces Reserve Center (AFRC). The project included an approximately 50,000-square-foot, single-story building to house a drill hall, military postal training facility, maintenance shop, motor pool for military vehicles and parking for civilian vehicles. The 10,000-square-foot maintenance shop and motor pool can be either attached or separate from the AFRC
- **WVANG – Modified Record Firing Range, Camp Dawson, WV** – Civil engineer responsible for design and plan production. The range is a 16-lane facility located at the Briery Mountain Training Area. Due to the rugged terrain, a detailed line of sight analysis was completed to ensure each target could be seen from each firing point and to minimize the earthwork to construct the range. Civil design saved the client millions of dollars in site work.
- **AMC/USASAC Headquarters RFP; Redstone Arsenal, AL** - Civil engineer for developing an RFP for the design-build acquisition of the Army Materiel Command Headquarters and US Army Security Assistance Command Headquarters. Major features of each facility include administrative space, conference rooms, emergency operations centers, classrooms, computer rooms, and Sensitive Compartmentalized Information Facility (SCIF) areas. A cafeteria, auditorium and fitness center will be shared by the facilities.
- **Small Arms Firing Range Design/Build Project, Georgia Air National Guard/165th Air Wing/Combat Readiness Training Center (AW/CRTC)** - Civil engineer responsible for designing range grading and drainage plans as well as finished floor elevations for the firing surface and bullet containment system.
- **Southern Command (SOUTHCOM) Headquarters RFP; Miami-Doral, FL** - Civil engineer for developing an RFP for the design-build acquisition of the SOUTHCOM Headquarters.



Camp Dawson
Modified Record Firing Range
Kingwood West Virginia



AMC/USASAC Headquarters
Redstone Arsenal, Alabama



Southern Command Headquarters
Miami Florida

located at Miami-Doral, FL supporting consolidation of all SOUTHCOM, coalition, and interagency functional elements. Major features of each facility include administrative and operational space, instructional spaces, conference rooms, emergency operations centers, classrooms, computer rooms and SCIF areas.

- **Heritage Middle School, Williamson County, TN** - Civil engineer for design and plan production of the layout, grading, utility and roadway design for a new middle school.
- **Greek Row, MTSU, Murfreesboro, TN** - Civil engineer for design and plan production of the layout, grading, utility, and roadway design for eight new fraternity houses on the campus of Middle Tennessee State University.
- **Martin Methodist University, Student Housing, Pulaski, TN** - Civil engineer for design and plan production of the layout, grading, utility, and roadway design for two new student dormitories on the campus of Martin Methodist University.
- **Father Ryan High School, Oak Hill, TN** - Civil engineer for design and plan production of the layout, grading, utility, and roadway design for a new library and theatre building on an existing private school campus.



James C. Akers

Senior Cost Estimator

As Director of Regional Operations for CCS' Waldorf, Maryland office, Mr. Akers oversees all business operations of the Eastern Region. His responsibilities include working closely with CCS' production team to outline work plans, assign duties, and coordinate all details of project assignments. Mr. Akers has experience in budget estimating and cost control during the design phase of a project.

Mr. Akers generates estimating deliverables, has the ability to develop accurate conceptual cost models, understands construction methods, productivity, equipment, systems and materials, keeps track of current material and labor pricing including escalation, maintains relationships with subcontractors and material vendors, makes meaningful value engineering contributions, has the ability to reconcile estimates with other consultants and design team, generates sound documentation for scope of work assumed in estimates, maintains a well organized approach and disciplined work ethic.

Mr. Akers has an extensive background in cost engineering and project management and has handled projects of all types and sizes from inception through completion. He has experience in the areas of owner representation, dispute resolution, risk management, constructability reviews, CPM scheduling, value engineering, construction inspection, project and construction management, cost estimation, change order analysis, claims evaluation, and expert witness services. These services are provided to the private sector and government agencies at the federal, state and local levels both nationally and internationally.

Mr. Akers is an active member of the American Society of Professional Estimators (ASPE) and the Association for the Advancement of Cost Engineering (AACE).

Experience

Firm Experience: 9 years

Industry Experience: 24 years

Education

B S / Business Administration (Emphasis in Civil Engineering)

University of Maryland, College Park

Project Experience

Army National Guard - Joint Interagency Training Center (JITC-East) - Camp Dawson, WV

Homeland Security Center of Excellence: 610,000 SF new joint training center that will provide the needed education and training to National Guard personnel and other intra- and inter-agency partners in Homeland Security and Homeland Defense including the Army Reserves, National Guard, Department of Energy and Armed Forces Readiness Center.

Maryland National Guard – Value Engineering Study

Reistertown, MD

Value Engineering study for new 70,994 SF Armory State Command and Control Center

Ohio Air National Guard - Office Buildings

Toledo, OH

New construction and renovation of two one-story office buildings and one aircraft hanger totaling 89,560 SF

Charleston Job Corps Center - Charleston, WV

One or two-story new dormitory and school building: 191,209 SF correctional facility consisting of 11 buildings including dormitory, kitchen areas, school buildings and administrative space.

Wheeling Federal Building and U.S. Courthouse Annex - Wheeling, WV

106,438 SF (9,892 SM) new 4-story Annex that will provide additional space for the growing family of courts. The facility will remain occupied and operational throughout construction and is listed in the National Register of Historic Places as part of the Downtown Wheeling Historic District.

Dover Air Force Base - Army Visitor's Quarters

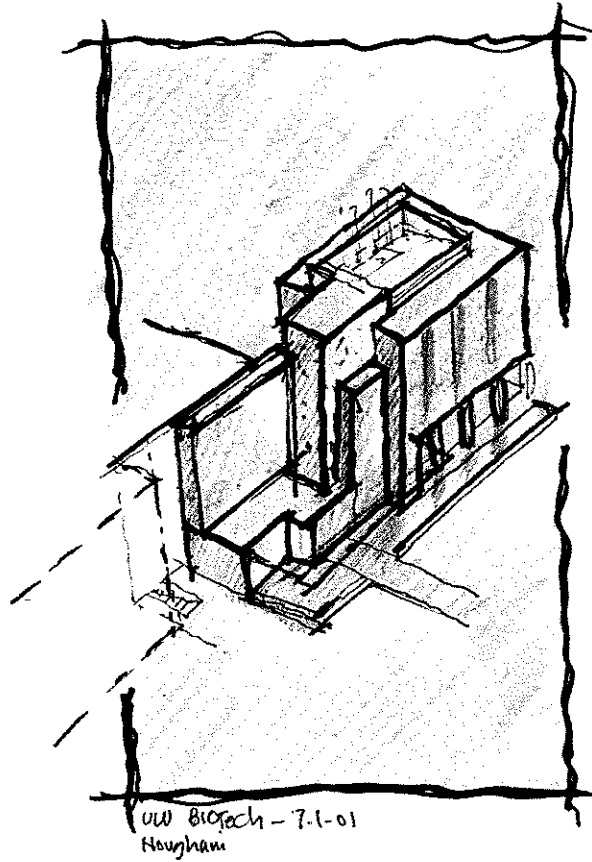
Dover, DE

6,500 SM (69,000 SF) new three-story building with 112 units. Project includes amenities, new mechanical, electrical and plumbing and the demolition of the existing building. Estimates performed in MCACES-GOLD (Costlink) Estimating Software

CCS

Section 3:

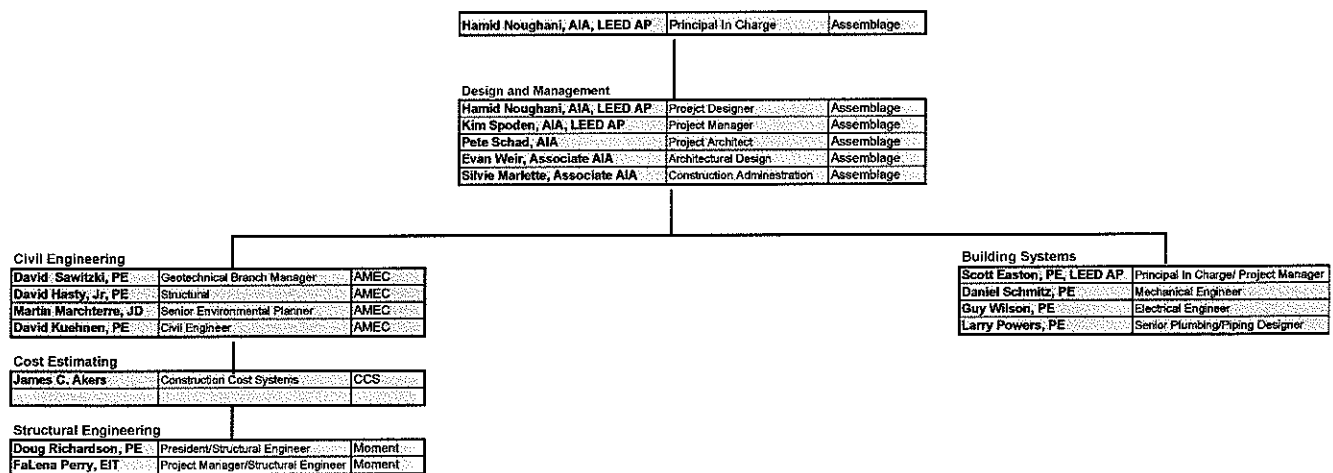
Management, Quality Control, and Cost Control Plans



Management Plan:

Hamid Noughani, AIA will be the Principal-in-Charge of the project and bears the contractual responsibility of the project as well as the primary contact with the client and the agency. Kim Spoden, AIA of Assemblage Architects will lead the project documentation and coordination. Doug Richardson, PE will provide structural design for the building. Affiliated Engineers will be the building systems engineers for the project. AMEC will provide site evaluation, site civil, and geotechnical support

The team will rely on a broad range of tools to maintain consistency in design and coordination by establishing a dedicated FTP site that maintains up-to-date project information and by distributing regular project memos that reflect the decisions, thus maintaining a tack record of evolution of the building design and its development and sharing that information with the contributing disciplines.



Quality Control Plan:

The Primary strategy for maintaining quality in developing construction documents that are accurate, coordinated and complete is planning the project in a way that the decisions are made with the input from the appropriate sources at the proper time and are included in the overall development of the building. Construction documents are reviewed during production for consistency and coordination with the engineering disciplines

We will develop and present to the client a project schedule identifying each family of decisions and its proper time during the design period thus presenting ample time for preparation and gathering of the information necessary to make the decision

Cost Control Plan:

While maintaining the programed area of the building is the primary mechanism to control cost we rely on the opinion of professional cost estimator to assist us in developing timely and accurate cost estimate that will guide our decisions so that we design the building within the budget.

We plan of developing cost estimate that three stages of Schematic design, design development and Construction documents. We will then verify our consultants estimate by benchmarking selected components, such as curtain walls, and we seek manufacturers input to buttress the construction cost estimates.

Furthermore during the final stages of construction documents we will seek input from our contractors in the region regarding unit cost of certain items that are typical in the design of the building such as masonry. We will then compare this information with that of our consultant to confirm the accuracy of the estimate

Finally we have selected a Construction Cost Systems Inc. Which we have worked with for over ten years on significant projects including the JITC and Mountaineer Challenge Academy both at Camp Dawson. CCS is familiar with our requirements and we have developed a close working relationship with them over the years that helps us communicate our intentions at the critical stages of the project

Construction Administration:

We view the construction administration service as a continuation of our involvement in the project, and we tailor our Construction Administration services to fit the project requirements and the clients needs. These services may range from the minimum design review services to comprehensive construction management services. The following are some major categories of these services:

1. **Basic services:** Typically reserved for small project and for clients with in house construction service managers. Our body of work includes regularly scheduled site visits, review of shop drawings, responding to RFI's, and review of pay applications.
2. **Full time site representative:** For larger or complex projects, some clients request an on site representation from the design team. Our representative moves to the site and oversees the construction of the facility. The full time site representative provide valuable oversight and offer up-to-date construction status report that can be used as the bases for decision making
3. **Construction Manger:** Construction Manager is most comprehensive service and it provides many of the owner functions. It is usually reserved for very large or complicated projects or for clients with limited availability of their own construction management staff.

In all cases, we rely on good and timely information to provide clear bases of action. This information are developed in the forms of logs, photographic databases, graphic databases and communication tracking systems and are managed through an FTP site that is readily accessible to all participants

When appropriate, we attempt to assign the design staff to construction administration responsibility, so that there is a continuation of thought throughout the project.

WE ARE COMMITTED TO BUILDING A BETTER WORLD.

Sustainable Design

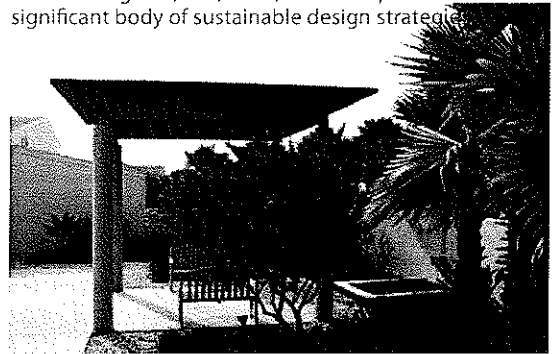
Our commitment is long standing and has informed our professional practice for many years. We are currently in the process of designing a complex facility for the US National Guard aiming at a LEED silver designation. We consider LEED guidelines as one of the primary factors in our decisions throughout the design process on a consistent basis. We follow the process established by the US Green Building Council, by designating certified professionals in Architecture and Engineering disciplines to lead the efforts and maintain the required records. Hamid Noughani, AIA, LEED, directs the design team in sustainable building design.

Our approach for building sustainable buildings is consistent with the views expressed in US Green Council and consists of the following attitudes towards energy preservation and environmental implications. Sustainable buildings have become a term used throughout the building industry. The term encompasses an approach to building design, responding to the environmental conditions and energy consumption requirements. These buildings, also called 'green buildings', refer to a rating system within the environmental sensitivity standards as defined by LEED. Our goal is to help create environmentally sustainable buildings as a holistic design approach.

LEED standards rate a building's performance and can be approached from several design aspects. The basic standards are described in the following five points:

1. How the building is situated within the site including orientation, landscaping, transportation methods and energy uses.
2. By reducing the amount of energy consumed and exploring new ways of reducing the energy load of the building while increasing efficiency and utilizing renewable resources.
3. To protect and conserve water by reducing and controlling the amount of building water consumption and recycling the building's water when possible. Also taking into account the site run-off and the way in which it can be recycled or used to benefit other site amenities.

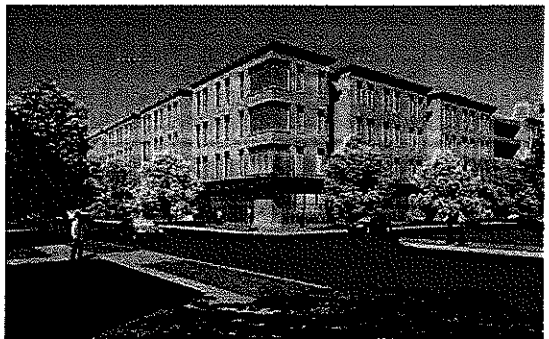
Each of the projects pictured here are part of a larger collection of buildings design by Hamid Noughani, AIA, LEED, that incorporate a significant body of sustainable design strategies.



Goodman Courtyard - Tampa, FL



Goodwill Industries - Charleston, WV



UW Physical Plant Building - Madison, WI

Sustainable Design

4. The use of more environmentally friendly materials to minimize the impact on global warming, resource depletion and human toxicity. Material selection also considers product manufacturing, packaging, transportation, installation, use and disposal.

5. The indoor environmental quality of the building significantly impacts the health, comfort and abilities of the occupants. The building must have appropriate ventilation and moisture control systems while allowing for the maximum amount of daylight in the spaces. Finally materials with a high level of VOC emissions cannot be used.

In the early stages of design it is essential to be aware of the LEED responsibilities and guidelines. As LEED certified Professionals we adhere to the standards and procedures based on nationwide criteria. Consistent updating of the material database, continuing education and stringent record keeping allows us to be a leader in designing highly technical and advanced buildings.

Critical steps to consider when designing a green building start with estimating the most cost effective way to reduce the life-cycle expenses. We are interested in promoting integrated 'whole building' design practices. By integrating natural resources, human health and community concerns into the building design and construction, we can design a cleaner, healthier environment for the occupants.

Our role as a LEED certified professionals on a project team is a service that is interwoven within all aspects of the building. The process of sustainable building design influences the design team from the initial site layout all the way through the commissioning stage. We welcome the opportunity to create environmentally responsive buildings as part of our whole-building design approach, advancing technology to build a better world.



Regional Training Institute - Kingwood, WV



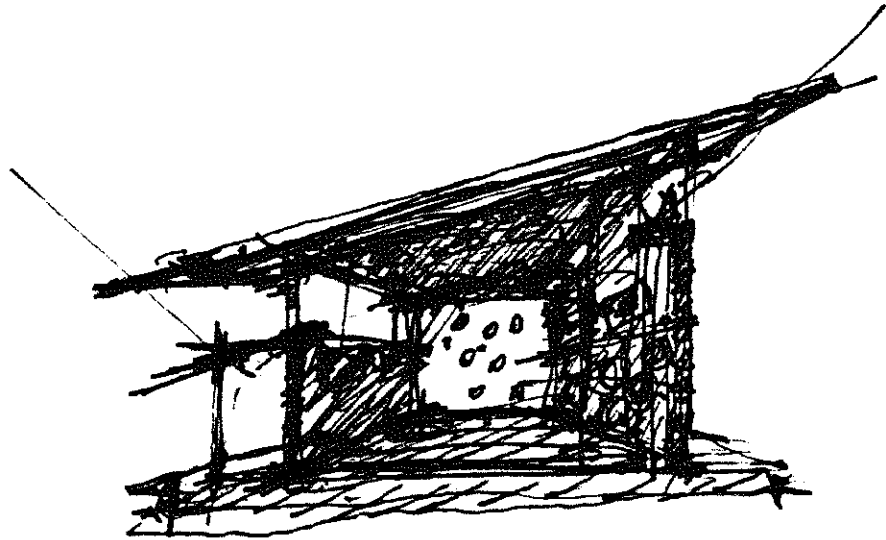
Elliot Building - Tampa, FL



UW Genetics/Biotechnology Building - Madison, WI



Section 4: Portfolios



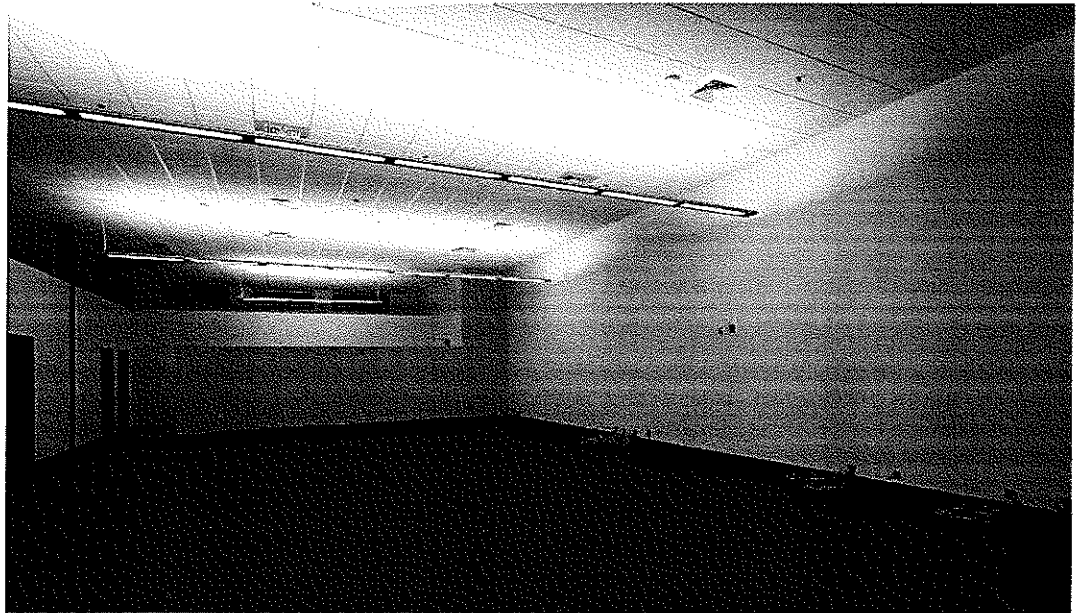
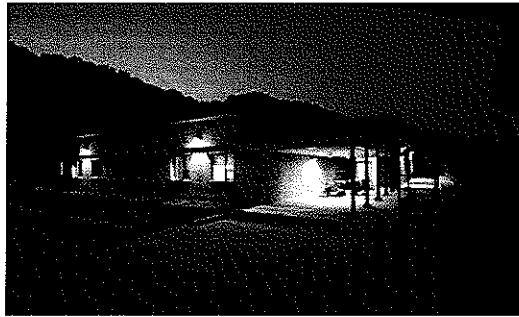
Armed Forces Reserve Center - Addition

Camp Dawson Kingwood, WV

Client: West Virginia Army National Guard

This project is an addition to a 54,000 GSF building designed by Hamid Noughani in 1997 and is designed to accommodate the units expansion and its support personnel. The program includes classrooms, offices, storage and explosive dismantling teaching laboratories.

Substantial Completion:	October 2009
Area:	17,000 SF
Construction Cost:	\$7.5M



Prairie du Chien Correctional Medical Clinic

Client: Wisconsin Department of Corrections
Division of State Facilities

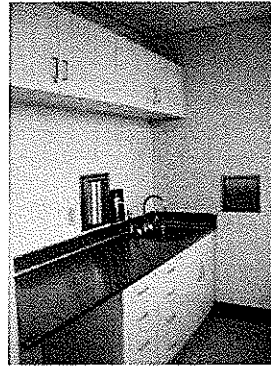
By demolishing and remodeling an existing office area, a full service medical clinic was created within the Prairie du Chien Correctional Institute. The clinic layout includes: 4 exam rooms, laboratory rooms, a record room, nurses stations and a pharmacy.

The exam rooms are equipped with privacy curtains, casework, and an alarm call system. Stainless steel sinks and counters are installed at the laboratories and include a specimen pass, between the toilet room and the laboratory. The medical records room is a secure storage room and distribution center for the Institution's narcotics. The nurses' station room is designed to accommodate four to five nurses at a time having easy access to exam rooms, laboratories and medical records. Pharmaceuticals are securely stored along the corridor. Ample secure storage is included throughout the design.

The facility's design criteria was to accommodate security concerns such as line-of-sight while maintaining required patient privacy. The call system indicators are visible in the corridor with alarm panels and intercoms located in the nurses station and at the opposite end of corridor's guard post.

A complete package of Mechanical, Electrical and Plumbing systems as well as an alarm and security system are included in the project's scope of work.

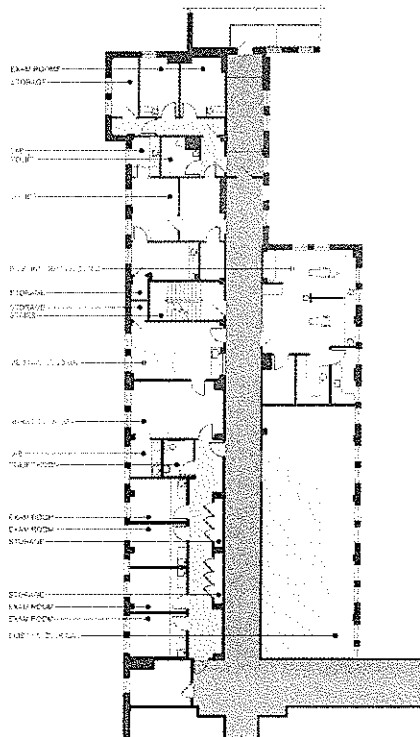
Area Completed 2,480 sq. ft.
December 2006
ConstructinoCost. \$300,0000



Completed laboratory



Completed corridor with line of sight to exam rooms



Completed floor plan design

Oakhill Correctional Institution OCI School Improvements

Client: Wisconsin Department of Corrections
Division of State Facilities

Location: Oregon, Wisconsin

Oakhill is the premier educational facility for the Wisconsin Department of Corrections. It is a renovated campus of a historic girl's school that has been modified to accommodate a broad range of educational activities. These programs include traditional craft skills such as carpentry, electrical, plumbing, and masonry as well as non-traditional but specialized areas such as ceramics. Service oriented programs include culinary, janitorial, barber shop, and health care skills. The facility offers a diverse array of spaces including classrooms, conference spaces, library, shops and specialized craft spaces such as kiln rooms to accommodate the programs.

The facility is also the designated accessible system wide facility housing many of the elderly inmate population.

The project consists of 8 smaller projects providing accessibility as well as developing and improving many educational spaces.

Completed 2009



Oakhill Correctional Campus

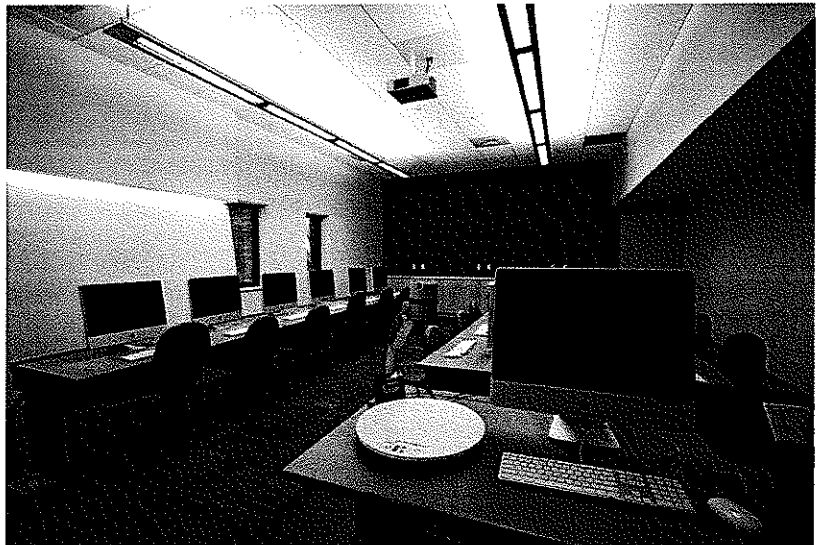
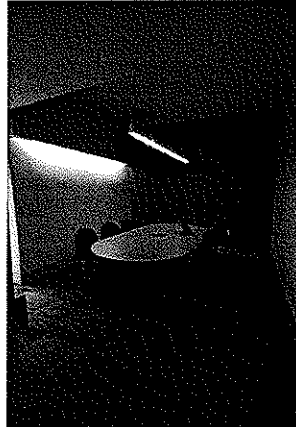
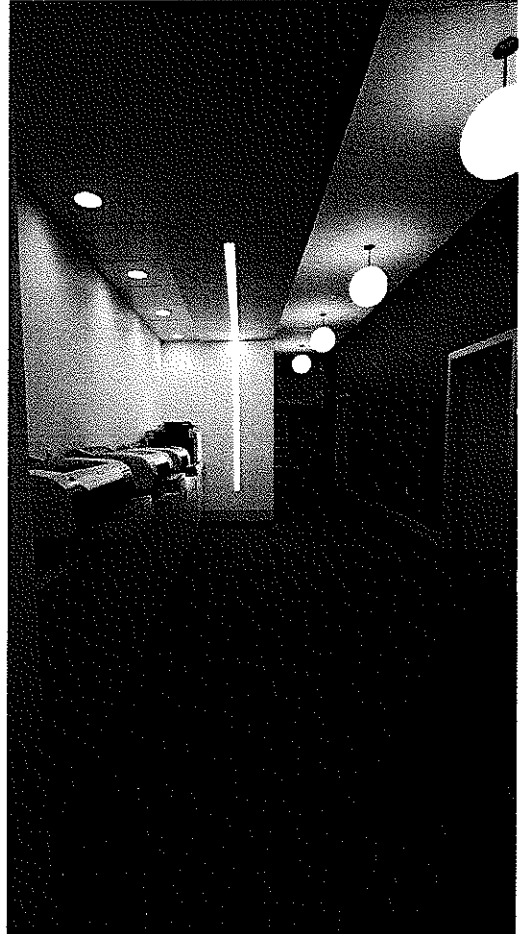
University of Wisconsin Eau Claire
Hibbard Humanities Hall - Media Lab
Eau Claire Wisconsin

A sophisticated Media Teaching Laboratory designed to develop Media production skills across television, print, web and radio

The space is designed based on a collaborative work environment with places of interaction and highly specialized environment. The facility is also designed with significant flexibility to accommodate future diverse program

The program includes classrooms, TV Studio, Radio studio, newsroom, offices, photography studio and production spaces.

Completed: 2009
Area: 8000 GSF
Construction Cost: \$ 13 M



Wisconsin Secure Program Facility Supermax Prison

Boscobel Wisconsin

The State of Wisconsin Supermax prison is designed to house 500 of the prison systems' most hardened inmates. The facility combines three separate buildings – the main housing building, a gatehouse with visitors' facilities and sally port/ guard tower, and a separate maintenance/storage building

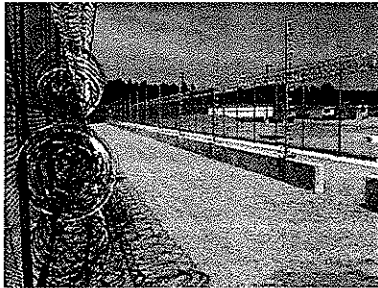
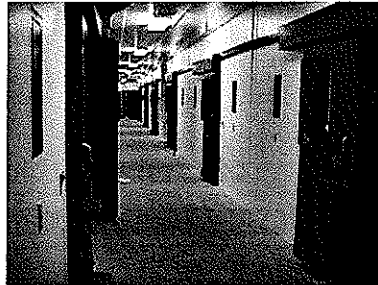
The housing building is composed of 5 separate units, each with a different level of security. Each unit has a central guard station controlling traffic in and out of the linear cell blocks. Mechanical corridors between the cell corridors house all mechanical equipment and – through the use of translucent skylights - provide natural light to the cells. The entire facility is monitored electronically from a central station near the entrance to the housing building. There are exercise facilities attached to each unit and a complete medical facilities, including an isolation unit for patients with communicable diseases

The gatehouse contains a visitor center for electronic visiting – visitors communicate with inmates only by closed circuit television and may never enter the housing building proper. The gatehouse also contains a security screening point, administrative offices, and guard lockers with secure weapons storage. Immediately adjacent is the single guard tower which controls vehicle entrance through the gated sally port. The gatehouse has a brick exterior and flat roof. The warehouse building stands alone, outside of the secure perimeter

The entire facility is surrounded by a triple layer fence. This fence is comprised of a central lethal electrified fence sandwiched between two conventional chain link fences with razor ribbon and this alleviates the need for traditional guard towers.

During Kim Spoden's tenure at Potter Lawson.

Completed: 1999
Construction cost: \$35 M



Genetics-Biotechnology Building

University of Wisconsin - Madison Campus

Program: The building addition functions independently of the primary structure and will house the genetics department and the Wisconsin genome center. The requirements include: a substantial percentage of laboratory and lab support spaces, an extensive animal research facility, lecture and conference spaces, faculty offices, and student workplaces.

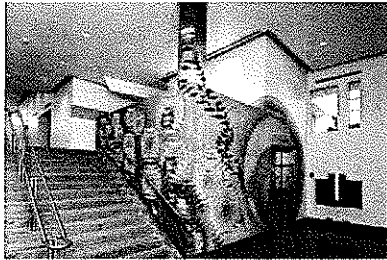
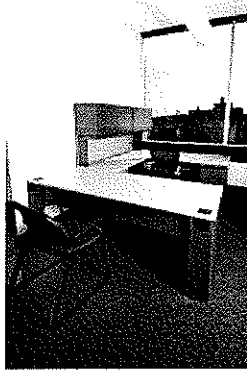
Design approach: The limited site defined the footprint of the building and presented challenges for the planning of the delivery access and pedestrian access into the building. The building was conceived as an autonomous addition with a few interconnected systems. The lab designs reflect the open lab concept that allows the user to change from a wet to dry to computational in a short period of time.

The spaces within the building are organized to allow maximum exposure to daylight. The circulation is designed to allow for secure lab and animal facility compartments while providing open access to the faculty offices and lecture spaces.

A heat reclaim system is utilized to capture exhaust air heat and recirculate it through the system. The building's critical systems and the animal research labs are designed with full system redundancies.

During tenure at other architectural firm.

Completed:	2004	
Area:		92,735 GSF
Construction Cost:		\$ 22 M



Babcock Hall

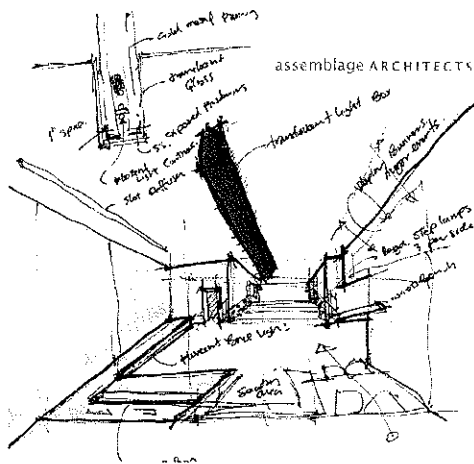
University of Wisconsin - Madison

Babcock Hall was constructed in 1950's and is home to University of Wisconsin beloved Dairy plant. It serves as both teaching facility as well as a production facility. The teaching mission of the facility attracts cheese and beer makers from around the globe in addition to the normal student population. The building has never had a major renovation. Once completed, this project will renovate the entire building including life safety systems, all new laboratories, and complete interior design and envelope improvement.

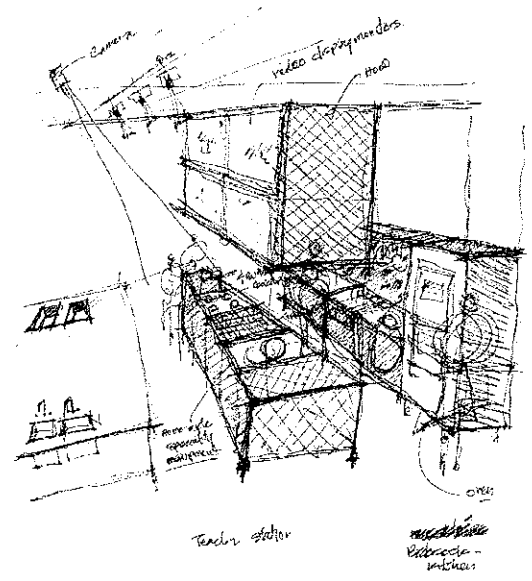
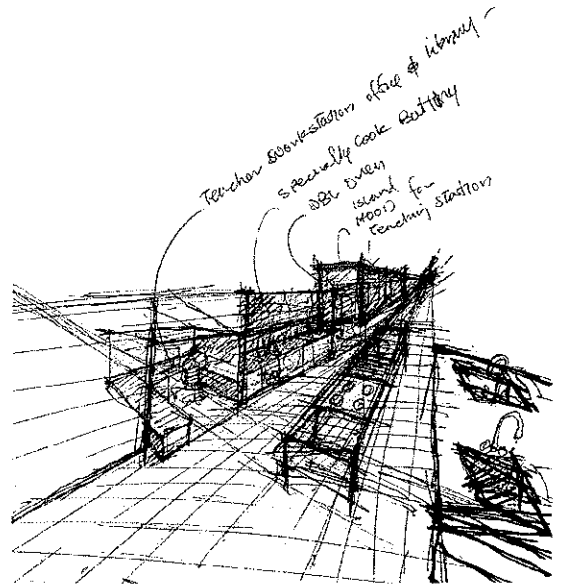
Additionally the building will have new commercial teaching kitchen to provide opportunities for culinary arts to food science students.

The project's first phase of construction is currently underway.

Expected Completion	2010
Area:	56,775 GSF
Estimated Construction cost:	18 M



assemblage ARCHITECTS



Robert C. Byrd
Regional Training Institute
West Virginia Army National Guard
Camp Dawson, Kingwood, WV

Program: The building is designed to provide the setting for a variety of training classes, meetings, and conferences serving both military and civilian populations from the regional areas throughout the country.

In support of its educational mission, the building provides a host of facilities including private dormitory rooms, dining facilities, a medical clinic, and an extensive fitness center including an Olympic size swimming pool.

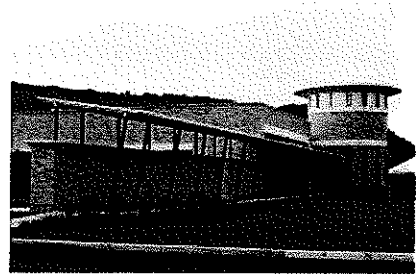
Design approach: The architectural precedent for a building type that accommodates adult living, learning, and congregational activities is limited in terms of historical context. The most successful types date back to the Romanesque architectural Periods of Europe. This building's architectural design roots may be found in the Romanesque monestaries in terms of plan layout and design details. The building is designed based on the three activities listed above. These designate three volumes which are grouped to form a courtyard. The courtyard weaves an entire military base campus of otherwise isolated buildings together, and creates a sense of place at the heart of the campus.

The internal organization of the building is a direct reflection of the building's program analysis. For instance, the primary spine of the building reflects the routine that the attendees will follow to engage in the programs that are offered. This routine consists of arrivals, registration, advisement, and receiving educational supplies. The arrangement of the building is designed to identify the entrance, accommodate the reception area, provide private space for advisement with instructors and adjacent supply rooms for the dispense of materials.

The education wing of the building offers a collection of classrooms with various attributes to accommodate a broad range of instructions.

During tenure at other Architectural firm.

Completed:	2001
Area:	145,750 GSF
Construction Cost:	\$ 22 M



School of Veterinary Medicine TomoTherapy Addition

University of Wisconsin - Madison

The School of Veterinary Medicine at the University of Wisconsin Madison is breaking new ground in interventional veterinary care with the addition of a specialized TomoTherapy unit. The project integrates the specialized needs of this unique system into the existing building with the construction of a new addition and renovations of the related spaces. Support areas for the TomoTherapy system include a treatment vault, operator station, planning office, data server room, flexible conference spaces, prep and mechanical spaces.

*Completion anticipated:
Construction Cost:*

*August 2010
\$2,300,000*



assemblage ARCHITECTS

New Physical Plant Building Feasibility Study

University of Wisconsin - Madison Campus

The program is developed to replace the current Physical Plant Building and reorganize the Facility Planning and Management into a single building on campus.

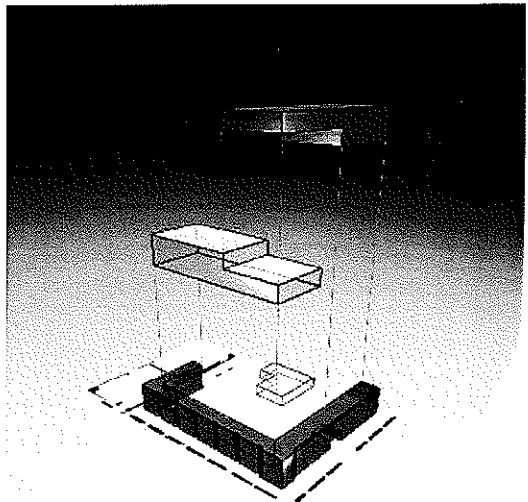
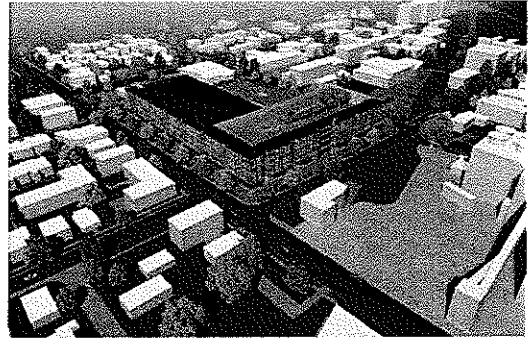
The study considers a broad range of issues including: operational organization, campus relationships, parking and deliveries, the building's long-term adaptability, blend of use and proximity, neighborhood interaction and urban design, energy conservation and LEED designation.

Nine options were developed incorporating a range of program necessities and cost implications. Each option was developed through a schematic level and three-dimensionally rendered in order to visually study the building in its context; and to solicit input from a group of University administrators.

The study included the development of schematic designs, selection of building materials and methods of construction, preliminary cost estimates, and a time-line outlining project delivery.

Completed:

June 2005



College of DuPage
Health Careers and Natural Sciences Center
Glen Ellyn, Illinois



The College of DuPage was opened during the fall of 1967 and is the Midwest's largest comprehensive, single-campus community college. It is dedicated to serving the diverse higher educational, civic and cultural needs of its residents and has an enrollment of nearly 34,000 students.

In an effort to consolidate their health and natural sciences programs, the college chose to build a new Health Careers and Natural Sciences Center (HCNS). The project scope consists of a new 189,000 square foot facility which houses a combination of laboratory, classroom, office and instructional space.

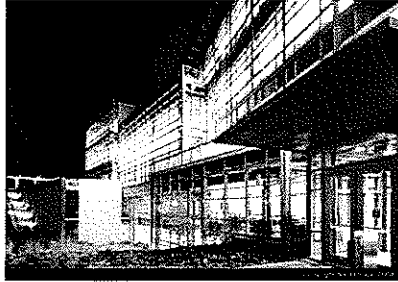
The new facility provides space for the following programs:

- Allied Health
- Certified Nursing Assistant
- Dental Hygiene
- Diagnostic Medical Imaging
- Nuclear Medicine
- Nursing
- Physical Therapist Assistant
- Radiography
- Respiratory Care
- Surgical Technology
- Anatomy and Physiology
- Microbiology
- Biology
- Chemistry
- Zoology
- Botany

To accommodate student and community interaction, an elevated "connector" will link the new HCNS building with the Student Resource Center and exterior spaces.

AEI's services were retained to design the mechanical, electrical, plumbing and information technology design systems. As an addition to creating technology designs for pathways/spaces and voice/data structured cabling, AEI developed designs for the audio-visual and security systems.

**University of Illinois at Urbana-Champaign
Thomas M. Siebel Center for Computer Science
Champaign, Illinois**



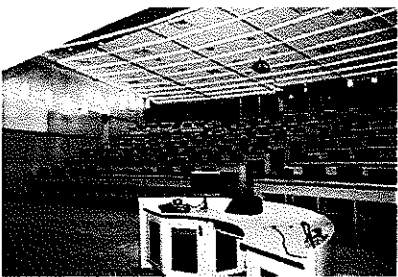
Siebel Systems, Inc. and its Chairman and CEO, Thomas M. Siebel, provided a donation to the University of Illinois at Urbana-Champaign to construct a new computer science teaching facility. Comprising over 270,000 square feet, this living laboratory integrates research and education with a vision of 21st century computing that embraces smart spaces and intelligent environments that learn and adapt to human actions. The state-of-the-art facility incorporates undergraduate and graduate studies.



AEI was selected to provide MEP/IT/Lighting design services for this facility. As technology needs change, it is important that this facility has the flexibility to adapt. The programs for the facility call for it to be a living laboratory for innovations in the interface between building users and the building's control systems.

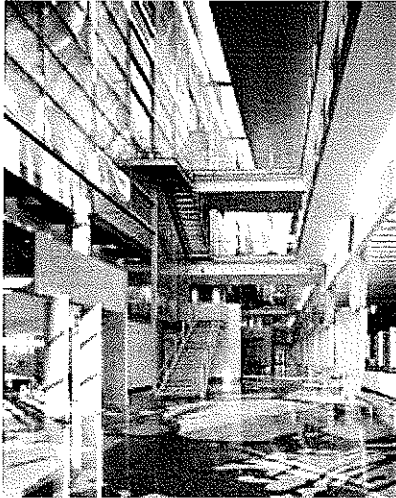
The facility includes a parallel computing lab (sometimes referred to as cluster computing) and is at the forefront of this technology development. It also contains audio-visual capability for distance learning, as well as real-time collaborative research, including virtual reality. Mobile devices, wireless networks, ubiquitous multimedia and software agents combine to support new modes of collaborative research and education.

AEI conducted extensive benchmarking studies to determine the impact on power, structural and cooling infrastructures. The IT infrastructure is designed to accommodate the sophisticated level of computing technology.



Additional spaces include: 15 research labs, 5 instructional labs, 9 classrooms, 200-seat auditorium and 19 conference/seminar rooms.

University of Wisconsin-Madison Engineering Centers Madison, Wisconsin



"The faculty and staff in our College have enjoyed working with Affiliated Engineers in the creation of our Engineering Centers Building. We have a vision of the future of engineering education and the building not only as a functional envelope for our programs, but a living part of the learning process for our students. Affiliated has become equally enthusiastic about our objectives and has contributed significantly to achieving our goals. We are now completing the 35% design report and we feel very positive that Affiliated will carry out the detailed engineering to meet or exceed our expectations."

Emeritus Dean John Bollinger
University of Wisconsin
College of Engineering

Recognizing the need for a change in how engineering was taught at the undergraduate and graduate level, the University led intensive discussions with educators, students, industry leaders, and administration personnel to determine the programming needs of a state-of-the-art engineering teaching/research facility.

The end result is the 204,000 square foot Engineering Centers, a progressive teaching/learning environment that supports the College of Engineering's (COE) vision for the integration of education and research. The building allows students to learn in an innovative environment that incorporates different engineering disciplines into one space and allows students to begin to utilize hands-on skills beginning in their freshman year.

AEI was selected to provide programming, site and building concept analysis, and mechanical, electrical, piping and information technology (MEP/IT) and lighting design services, as well as, construction administration. This facility includes student centers, research centers, nano material, nano fabrication, plasma manufacturing, common labs, biomedical research, Class 10, 100, 1,000 and 10,000 cleanrooms, trace centers, and an automotive and engine dyno room. The building has a 10,000 square foot semiconductor cleanroom area, with a space classification of Class 10 for highly toxic gases.

The unique design of the building allows for student interaction at all levels. Student spaces include discovery and innovation labs, leadership centers, technical communications center, career services, auditorium space, presentation rooms, support space and meeting rooms.

This building allows capital-intensive equipment to be shared by different researchers on campus. The combination of the clean room area and the automotive areas within one building made the design of the MEP system challenging, since the automotive area necessitated a separate mechanical exhaust and supply system (almost creating an independent building within a building) to avoid contaminating the clean room space.

By including a variety of different space types ranging from open laboratories to vibration intensive spaces, the COE meets two of its most important planning goals:

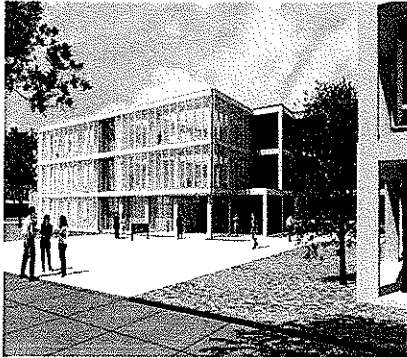
- Showcase the building's systems to support both the educational curricula of the college and to provide demonstration of new technologies. Specifically, smart building

**University of Wisconsin-Madison
Engineering Centers
Madison, Wisconsin**

concepts are advanced in this building beyond the current state-of-the-art; it includes integration of telecommunication, data and video conferencing systems in the same data highway with stand-alone building controls.

- Develop flexible and adaptable concepts that can be applied to supporting industries to allow facility down time for change-over to be minimized. Service areas are contained in corridors instead of in the laboratory space. This allows for routine maintenance to take place without fear of contaminating cleanroom or laboratory space.

**University of Illinois at Chicago
Sandi Port Errant Language and Cultural Learning Center
(Grant Hall) Renovation**
Chicago, Illinois



The University of Illinois at Chicago is undertaking a series of improvement projects to on its campus to modernize classroom space, provide MEP upgrades, and incorporate more energy efficient design. The first of these projects is the 18,000 square foot Sandi Port Errant Language and Cultural Learning Center.

AEI designed MEP systems which included the implementation of a hybrid-geoexchange system that was coupled with the campus steam and chilled water utility. The geoexchange ground heat exchanger is expected to pick up a large percentage of the load. During winter and summer peaks, the campus utility would be used to maintain the lower and upper geoexchange loop temperatures to provide peak capacity and keep the loop from freezing. The hybrid approach was taken since there was limited space on the urban campus to provide for the entire building load.

The geoexchange loop served water-to-air heat pumps that provide heating, cooling, and ventilation to the occupied zones. The ventilation air is processed through a total energy recovery wheel to reduce the load on the heat pumps. The energy recovery unit uses a water cooled condensing unit (tied to the geoexchange loop) to provide Dx cooling to the ventilation air when needed for dehumidification.

This is the first application of the geothermal technology on campus.

The building's space program includes smart classrooms, a writing and tutorial lab, language labs, and technology allowing for real-time foreign language broadcasts of TV transmissions from other countries. In addition, there are multi-media classrooms, a seminar room, and a computer lab.

Oakton Community College
Chemistry Laboratory Remodeling
Skokie, Illinois

Oakton Community College (OCC) was established in 1969 and is a member of the American Association of Community Colleges, as well as numerous professional organizations. OCC's District serves more than 450,000 residents in communities northwest of downtown Chicago.

AEI was retained for mechanical, electrical and piping design services to convert 3,000 square feet of existing computer lab space into two Life Science instructional classrooms plus a science preparation room on OCC's Ray Hartstein Campus. Transforming this light duty educational area into a heavy duty laboratory suite involved several upgrades to the building infrastructure.

Infrastructure upgrades included the replacement of an existing return air handling unit with one that was capable of providing the ventilation required of the new science laboratories. Additionally, the new air handlers were needed to support the make up requirements of the new laboratory fume hoods. The OCC was also provided with a new fume hood exhaust system which included various hood controls. The fume hood exhaust was designed with variable air volume so as to be energy efficient, yet safely exhaust contaminated materials. In order to support the instructional and research work to be conducted in the suite, AEI provided the OCC with new natural gas piping to the classrooms and provided laboratory vacuum and laboratory compressed air infrastructure for the area.

**Madison Area Technical College
Indefinite Delivery Contract (IDIQ)**
Madison, Wisconsin

AEI was retained to provide ongoing mechanical, electrical, piping and information technology (MEP/IT) design services for a three year indefinite delivery contract (IDIQ) for Madison Area Technical College (MATC). AEI was selected to provide engineering services for the following projects:

Restroom Upgrades – Commercial Avenue Campus

This project involved the remodel and upgrade of 1,500 square foot of existing restrooms in Building A to be ADA compliant. Additional fixtures in each restroom were installed. A new janitorial closet was also added.

Fiscal Department Remodel – Downtown Campus

This project involved the HVAC and electrical remodel of 4,000 square foot portion of the first floor of this facility to allow space for the Fiscal Department to relocate from the Truax campus to this site.

College of Arts and Science Remodel – Truax Campus

This project involved the remodel of the 2,000 square foot Arts and Science Offices at the Truax site. This remodel included the installation of new VAV boxes, new lights, power and ductwork revisions.

Fire Alarm System Replacement – Commercial Avenue Campus

This project involved the replacement of the existing fire alarm system with a new Simplex system in two buildings totaling 115,000 square feet on the MATC Commercial Avenue campus. This project also included the replacement of the clock system and a new public address (PA) system for both buildings.

Elevator Upgrade – Commercial Avenue Campus

The existing elevator in Building A did not meet current standards for ADA compliance. This project included the installation of a new ADA elevator and the removal of the existing elevator. The new elevator required installation of a new shaft space within the existing mail room area.

Data Center Analysis – Truax Campus

This study included an analysis of the existing data center. The study provided recommendations and options for upgrading the HVAC, electrical and fire protection systems to meet current building code.

A263 and A271 Room Remodels – Commercial Avenue Campus

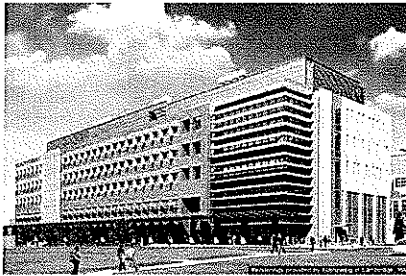
This project involved the remodel of four rooms totaling 3,240 square feet on the second floor in Building A to three larger rooms. One of the new areas houses a computer classroom.

**Madison Area Technical College
Indefinite Delivery Contract (IDIQ)
Madison, Wisconsin**

Office Remodel – Commercial Avenue Campus

This project involved the addition and renovation of 3,500 square feet of administrative office space in Building A. It also included the addition of a teacher's lounge and a conference room.

Sample Project



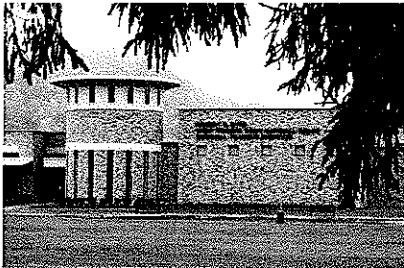
University of Kentucky College of Pharmacy

This 300,000 square foot building houses academic and research spaces for the new College of Pharmacy. Large stadium style classrooms provide space for more than 300 students in a lecture hall. Specialized vibration analysis was performed to insure state of the art research equipment has the appropriate operating environment on the upper floors. Generous open spaces were provided on the first two levels of the building requiring transfer framing of columns onto beams allowing grand stairs to provide an entrance focal point.

Building Information Modeling (BIM) was used in the design of this structure allowing increased efficiencies of structural and architectural coordination. The steel fabricator used the BIM model of this structure which reduced the production time of shop drawings.

FaLena Perry served as project engineer for this project while at employed at BFMJ and was responsible for the 3D computer models used in developing construction documents.

Sample Project



Robert C. Byrd Regional Training Institute

The Regional Training Institute at Camp Dawson is a new 143,000 square foot facility constructed for the West Virginia Army National Guard that provides an ideal setting for training classes, meetings and conferences serving both the military and civilian population. The facility includes classrooms, library, a three story hotel style wing, auditorium and swimming pool. The structural systems utilized include steel frames, reinforced concrete and masonry, load bearing cold-formed steel studs, and long span steel joists.

Sample Project

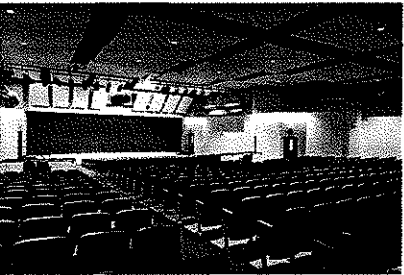
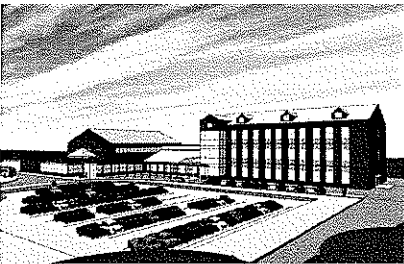
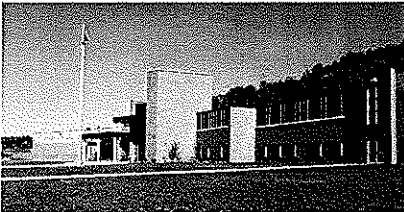


Eastern Kentucky University New Science Building

The new 180,000 square foot Science Building will house classrooms, laboratories and faculty offices. The building features a five story atrium, pond, greenhouse as well as other unique features to draw attention to the environment and serve as teaching aides. Phase 2 of this project will add an additional 150,000 square foot of mainly classroom and laboratory spaces.

Both phases were designed using 3D modeling allowing design efficiency saving in material costs. Structural systems include braced frames as well as moment frames, conventional foundations and deep foundations. Vibration analysis was performed and framing members selected to control floor vibration in selected laboratory spaces.

FaLena Perry served as the project engineer on this project while employed at BFMJ.



Additional Educational Project List

In addition to these highlighted projects, Moment Engineers' staff experience includes a wide variety of new building design. The list below is a small sample of the projects for which Douglas Richardson has had responsible charge of the structural engineering, design and contract document production. The total area of built space of new educational facilities exceeds 2,000,000 sf. A more extensive list is available upon request.

<u>Project</u>	<u>Sq. Ft.</u>
Barboursville Elementary School	63,947
Greenbrier East H.S. Renovations & Additions	205,057
West Greenbrier Jr. High	80,888
Wayne Co. Spring Valley High School	175,000
Mountaineer Challenge Academy	45,800
Ronceverte Elementary School	52,481
Dunbar Intermediate Center	43,500
Boone County Elementary	39,660
Cabell West Elementary School	55,788
Guyandotte Elementary School	38,083
White Sulphur Elementary Phase 3 Addition	27,340
Daniels Elementary Addition	56,785
Gray Flats Elementary	39,600
War Pre-K Through 8	72,618
Hilltop Elementary	49,700
West Hamlin Elementary	43,400
Man K through 8 School	82,300
Mount View High/ Middle School Additions	183,000
Logan Middle School	108,500



Section 5: Insurance Certificate

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)
02/01/10

PRODUCER
Holmes Murphy & Assoc - WI
10 E. Doty Street, Suite 800
Madison, WI 53703
Wendy Arnold

1-800-527-9049

INSURED
Assemblage Architects
410 D'Onofrio Drive
Madison, WI 53719

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURER A: The Travelers Indemnity Company of America
INSURER B: The Travelers Indemnity Company
INSURER C: Travelers Casualty and Surety Company
INSURER D: XL Specialty Insurance Company
INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY	6808231L618	02/16/09	02/16/10	EACH OCCURRENCE	\$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				FIRE DAMAGE (Any one fire)	\$ 300,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person)	\$ 10,000
					PERSONAL & ADV INJURY	\$ 1,000,000
					GENERAL AGGREGATE	\$ 2,000,000
					PRODUCTS - COMP/OP AGG	\$ 2,000,000
					GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	
B	AUTOMOBILE LIABILITY	8232L793	02/16/09	02/16/10	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
	<input type="checkbox"/> ANY AUTO				BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident)	\$
	<input checked="" type="checkbox"/> HIRED AUTOS				PROPERTY DAMAGE (Per accident)	\$
	<input checked="" type="checkbox"/> NON-OWNED AUTOS					
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	\$
	<input type="checkbox"/> ANY AUTO				OTHER THAN EA ACC	\$
					AUTO ONLY: AGG	\$
	EXCESS LIABILITY				EACH OCCURRENCE	\$
	<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE	\$
	<input type="checkbox"/> DEDUCTIBLE					\$
	RETENTION \$					\$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	UB5593411	02/16/09	02/16/10	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS	OTH-ER
	E.L. EACH ACCIDENT				\$ 500,000	
	E.L. DISEASE - EA EMPLOYEE				\$ 500,000	
	E.L. DISEASE - POLICY LIMIT				\$ 500,000	
D	OTHER Professional Liability Claims Made	DPR9615189	02/16/09	02/16/10	Each Claim	\$ 500,000
					Aggregate	\$ 1,000,000
						\$

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

CERTIFICATE HOLDER	ADDITIONAL INSURED; INSURER LETTER:	CANCELLATION
FOR PROPOSAL PURPOSES ONLY		SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER ITS AGENTS OR REPRESENTATIVES.
		AUTHORIZED REPRESENTATIVE <i>MU. R.A. SLOTT</i>