



ARCHITECTS

INTERIOR DESIGNERS

PLANNERS

Qualifications to provide
Professional Design Services for a

**Patient Care Unit at the
William R. Sharpe Jr. Hospital**
WSH12067

October 27, 2011



architecture
planning
interior design

October 27, 2011

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

RE: New Patient Care Unit at William R. Sharpe Jr. Hospital (WSH12067)

Dear Selection Committee:

Servicing the client in a superior manner is the key to successful architectural commissions. The architect must both meet and exceed the client's goals and objectives and produce solutions that fall within the budget and schedule parameters. IKM understands this and has built a reputation on superior service as evidenced by our high percentage of repeat clients. We will bring that firm philosophy and culture to an engagement with the William R. Sharpe Jr. Hospital.

Creating a new patient unit will require a team of experienced professionals along with key staff of the State and the Hospital working together to develop the best solution. Based on our previous visits to the existing facility and our past conversations with staff, we have an understanding of the needs for the new inpatient unit.

IKM Incorporated has built a strong reputation as healthcare planners and architects, and we have over 30 years of experience with behavioral health facilities. We have completed Psychiatric Hospitals at Lakewood and Southwood in Southwestern Pennsylvania; several projects for Western Psychiatric Institute and Clinic and Mayview Hospital; and similar facilities for the Veterans Administration.

IKM has also completed numerous projects in the state of West Virginia so we very familiar with the fire code and the Department of Health review process. We have completed healthcare projects for Putnam General Hospital, West Virginia University Hospitals, Mon General Hospital and medical office and ambulatory facilities in Martinsburg, WV. We have also completed several projects on the campus of WVU, and, most recently, I was the principal in charge of the new WVU Alumni Center.

We have carefully responded to your request for qualifications. If you have any questions about our firm and our experience, please feel free to contact me. We look forward to working with you on this new addition to the hospital. Thank you.

Sincerely,
IKM Incorporated

Roger Hartung, AIA, NCARB
Principal in Charge

IKM Incorporated

One PPG Place
Pittsburgh, PA 15222
T: 412-281-1337
F: 412-281-4639

www.ikminc.com

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PURCHASING DIVISION
STATE OF WV

RFQ No. _____

STATE OF WEST VIRGINIA
Purchasing Division**PURCHASING AFFIDAVIT**

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

DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATUREVendor's Name: IKM IncorporatedAuthorized Signature: [Signature] Date: 9/16/11State of PENNSYLVANIACounty of Allegheny, to-wit:Taken, subscribed, and sworn to before me this 16 day of September, 2011.My Commission expires MARCH 5, 2013

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature: Cheryl L. Marlatt]

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cheryl L. Marlatt, Notary Public
City of Pittsburgh, Allegheny County
My Commission Expires March 5, 2013
Member, Pennsylvania Association of Notaries

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www.ikminc.com



architecture
planning
interior design

IKM Incorporated
One PPG Place
Pittsburgh, PA 15222
phone: 412.281.1337
fax: 412.281.4639
www.ikminc.com

Year Founded: 1911,
Pittsburgh, PA

Number of People: 36

Principals:

John C. Schrott, AIA, ACHA
President, Principal

Jeffrey K. Brown, AIA, NCARB
Principal

Joel Bernard, AIA, NCARB,
LEED[®] AP, Principal

Roger Hartung, AIA, NCARB
Principal

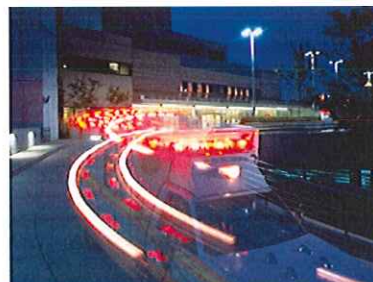
Michael McDonnell, AIA,
Principal, COO

*"...we focus on understanding
the business of healthcare,
placing ourselves in the
position of patient, clinician,
and administrator and
focusing on the holistic
approach..."*



IKM Incorporated is an architecture, planning and interior design firm, founded in Pittsburgh in 1911. Celebrating 100 years of design excellence, IKM specializes in planning and design for healthcare institutions. IKM's mission is to provide innovative and informed architecture that positively impacts the world through leadership in understanding, exploration and decision making.

Throughout our long history, we have provided design and planning services to prominent hospitals, clinics, physicians' practices and medical teaching and research facilities. Nearly 85% of our current work is generated by our healthcare clients, and over 90% of our work is for repeat clients, a testimonial to our ability to solve our clients' most complex needs, meet their budgets and respect their timetables.





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interior design

Our current client base ranges from large, urban hospitals and teaching universities to smaller suburban and rural hospitals, to physicians' practices and ambulatory care facilities.

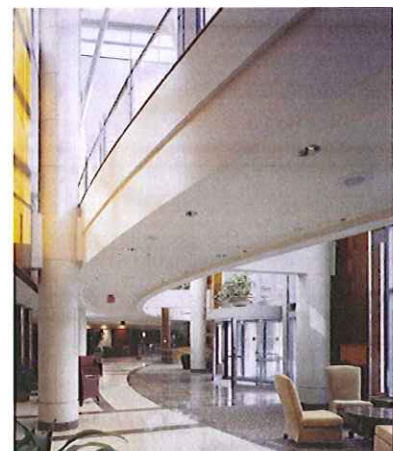
Since our inception, we have enjoyed a reputation for excellence in architectural design and outstanding service to our many clients. Rather than simply completing commissions, we concentrate on building lasting relationships through understanding the business of healthcare, placing ourselves in the position of patient, clinician, and administrator and focusing on the holistic approach to the healing process into which the physical environment is intrinsically woven.

We respect the fact that each client's needs and objectives are specific to their field of endeavor, and it is our mission to apply the knowledge and experience gained on a wide variety of projects to an Owner's particular project, enhancing efficiency, functionality and design. We can share the knowledge gained by our staff thereby eliminating the research and expensive trial and error that may occasionally occur during project development.

Our project experience includes renovation, adaptive reuse and new construction ranging from highly technological spaces (Emergency Units/Trauma Departments, Operating Rooms, Diagnostic and Treatment Laboratories, Transplant Units) to Administrative Offices, Lobbies, Cafeterias, Parking Garage, Conference Centers, and more residential types of construction (Retirement Communities, Long-Term Care Facilities).

We believe that architecture should create spaces rich in character and varied in form, spaces which function efficiently, are a physical testament to the primary goals of the institution, and harmonize with the built environment in which they reside.

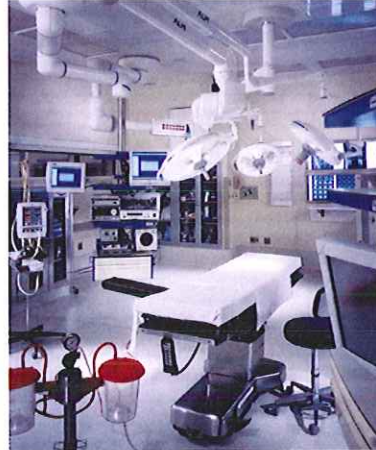
The challenge to sound architecture is to achieve a harmony of planning with the Owner as an active participant, which will produce the ideal fulfillment of the Owner's goals. Our service-oriented partnership philosophy was instrumental in AmeriNet's choice of IKM as the Preferred Provider of design services to their 1,000+ member institutions.



Professional Services



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Architectural Services

Site Analysis
Program Development
Conceptual Design
Schematic Design
Design Development
Bidding or Negotiated Pricing
Construction Documentation
& Specification
Sun studies
Zoning Analysis
LEED® /Sustainability Analysis/
Scorecard
3-D Image Development
Animation Studies
Building Information Modeling(BIM)
Computer Aided Design & Drafting
(CADD)
Administration of Construction
Contract
Construction Site Observation
Graphic Design & Signage

Food Service Planning
Detailed Cost Development
Post-Occupancy Evaluation

Planning Services

Campus Master Planning
Comprehensive City Planning
Zoning & Annexation Studies
Redevelopment Planning
Strategic Planning
Site Analysis, Evaluation &
Selection
Feasibility Studies
Facility Assessments
Transportation System Planning
Participatory Planning & Conflict
Resolution
Urban Design

Interior Design

Interior Standards
Conceptual Design
Installation Documents &
Specifications
Computer Aided Design & Drafting
Color & Finish Consultation
Artwork & Plant Consultation and
Specifications
Bidding & Negotiated Pricing
Administration of Furnishings
Contract
Installation
Furniture Evaluation
Site Observation
Custom Millwork & Furnishings
Design
Graphic Design & Signage
Maintenance Specifications/
Seminars
Post Occupancy Evaluation



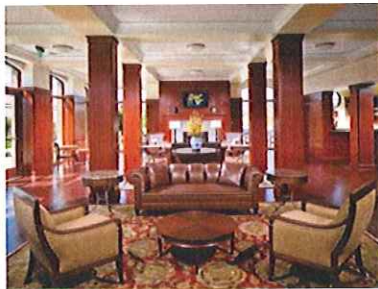
architecture

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Concord University, Athens, West Virginia
Alumni Center and Interfaith Chapel



Martinsburg Projects, Martinsburg, West Virginia
Medical Office Building
Tristate Ambulatory Surgery Center

Monongalia General Hospital, Morgantown, West Virginia
Ambulatory Care Center
Medical Office Building
Surgery Department addition/renovation
Cardiac Post Anesthesia Care Unit

Putnam General Hospital, Hurricane, West Virginia
OR Renovation

United Hospital Center, Clarksburg, West Virginia
Medical Office Building programming



VA Medical Center Clarksburg, West Virginia
IDIQ Contract
Master Facility Plan
Parapet Renovation
Patient Unit Renovation



West Virginia University Hospitals, Morgantown, West Virginia
Master Facility Plan
8th Floor Inpatient Bed Fitout
Cardiothoracic Unit renovation
Cardiac Holding renovation
Neonatal Intensive Care Unit
OR Corridor renovation
Parking Deck Study
Pediatric Unit Study
Post Anesthesia Care Unit
Diagnostic Imaging Waiting
Eye Clinic Elevator
Interventional Radiography Study
Administrative Office Renovation
Dietary Ware Wash Renovation
Pediatric Protective Environment Suite
Behavioral Health Holding Suite
Chestnut Ridge Addition and Renovation
Clinical Lab relocation Study
Childrens Hospital Renovation/Entry Study



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West Virginia University Health Science Center,
Morgantown, West Virginia
Master Facility Plan

West Virginia University Alumni Association,
Morgantown, West Virginia
Erickson Alumni Center

West Virginia University, Morgantown, West Virginia
White Hall Renovation
Evansdale Library
Downtown Campus Parking Garage Feasibility Study
Evansdale Campus Parking Feasibility Study
Oblebay Hall Science Building Code Renovation
Roads & Grounds Feasibility Study
Coliseum Locker Room Renovation
White Hall Computer Center Addition



Permitting & Regulatory Approvals



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As the design professional, IKM is well versed in understanding the complex code requirements associated with health care construction. Our designs integrate these requirements from the concept stage to create successful solutions that are compliant with the respective codes.

We are familiar with the Department of Health review process and understand how to secure approvals for our projects with respect to the AIA Guidelines for Design and Construction of Hospitals and Health Care Facilities as well as IBC, IRC, and NFPA codes.

We have regular contact and an ongoing dialogue with the **State Fire Marshall's Office** and with **OHFLAC** (Office of Health Facility Licensure and Certification) for review of drawings at different stages of design.

We have had several active projects in the state of West Virginia including the new **West Virginia University Alumni Center**, WVU White Hall renovations, and the **Martinsburg Medical Office Building**, as well as **several projects for West Virginia University Hospitals** including a Master Facility Plan of their more than 1 million square feet of space; the renovation of the 10th Floor CTU, Cardiac Holding, expansion and renovation of the Neonatal Intensive Care Unit, and the renovation of the Post Anesthesia Care Unit.

We have led many seminars on this subject and we keep our firm knowledgeable about changes and updates to the codes and standards.

IKM also works with the end user on project specific design codes or guidelines, e.g., AALAC for animal facilities, USP 707 for Pharmaceutical Compounding or the AAP Guidelines for Perinatal Care for NICUs.



Awards & Recognition



architecture
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interior design



Reading Post Acute Rehabilitation Hospital

2010 Award of Excellence

Associated Builders and Contractors, Inc.,
Keystone Chapter
Post Acute Rehabilitation Hospital, The Reading
Hospital and Medical Center

2010 Leadership in Energy and Environmental Design (LEED®) Certification

Westinghouse Corporate Headquarters Campus

2010 Leadership in Energy and Environmental Design (LEED®) Silver Certification

Westinghouse Chattanooga Office Building



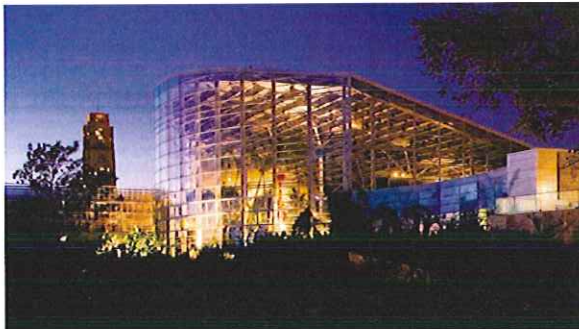
West Virginia University Alumni Center

2010 Award of Excellence and Award of Merit

Associated Builders and Contractors, Inc.,
Keystone Chapter
Lancaster General Women and Babies Hospital
Focused Growth Expansion

2010 Award of Merit

Associated Builders and Contractors, Inc.,
Keystone Chapter
Lancaster General Health Admitting Office Relocation



Tropical Forest, Phipps Conservatory

2010 Award of Merit

Associated Builders and Contractors, Inc.,
Keystone Chapter
Memorial Hospital Fast ER

2009 AIA Pittsburgh, People's Choice Award

West Virginia University Alumni Center

2009 Excellence in Construction \$10-\$25 Million

Associated Builders and Contractors, Inc., WV Chapter
West Virginia University Alumni Center



Hillman Cancer Center, UPMC Health System

2008 Evergreen Awards First Place

ecommercial category
Phipps Conservatory and Botanical Gardens

2008 Award of Excellence

Associated Builders and Contractors, Inc.,
Keystone Chapter
Lancaster General Hospital First Floor Corridor
Renovation



architecture
planning
interior design



Welcome Center, Phipps Conservatory



Caryl Gates Gluck Resource Center at Animal Friends



Grove City College, Colonial Hall Student Housing



Lancaster General Hospital Orthopedic Center

**2007 Engineers Society of Western Pennsylvania,
Commercial Project of the Year**

Phipps Conservatory and Botanical Gardens
Tropical Forest

2007 AIA Pittsburgh Green Design Citation

Phipps Conservatory and Botanical Gardens
Tropical Forest

2007 Western PA Golden Trowel Award

International Masonry Institute
Grove City College Colonial Hall Student Housing

2006 Preservation Award

City Historic Review Commission
Phipps Conservatory and Botanical Gardens
Welcome Center

**2006 Leadership in Energy and Environmental
Design (LEED®) Silver Certification**

Phipps Conservatory and Botanical Gardens
Welcome Center

Finalist Over \$5 Million 2006

Master Builders' Association of Western PA
Caryl Gates Gluck Resource Center at Animal Friends

2005 Award of Excellence

Associated Builders and Contractors, Inc.,
Keystone Chapter
Lancaster Orthopedic Center, Lancaster General
Hospital

2005 Award of Merit

Associated Builders and Contractors, Inc.,
Keystone Chapter
Lancaster Orthopedic Center (Overbuild & Tower),
Lancaster General Hospital

**2005 Center for Health Design, Architectural
Showcase**

Lancaster Orthopedic Center, Lancaster General
Hospital

**2005 Center for Health Design, Architectural
Showcase**

Hillman Cancer Center, UPMC Health System

Awards & Recognition



architecture
planning
interior design



Hillman Cancer Center, UPMC Health System

2005 Leadership in Energy and Environmental Design (LEED®) Gold Certification

McGowan Institute for Regenerative Medicine,
University of Pittsburgh

2004 NAIOP "Driver of Development" Award

National Association of Industrial and
Office Properties (NAIOP)
Hillman Cancer Center, UPMC Health System

2003 Circle of Design Excellence Award

Hillman Cancer Center, UPMC Health System

Finalist Over \$5 Million 2003

Master Builders' Association of Western PA
Hillman Cancer Center, UPMC Health System

Finalist Over \$5 Million 2003

Master Builders' Association of Western PA
McGowan Institute for Regenerative Medicine

Western PA Golden Trowel Award, 2003

Hillman Cancer Center, UPMC Health System



McGowan Institute of Regenerative Medicine

Western PA Golden Trowel Award, 2003

Three Mellon Bank Center Lobby Renovations

Silver Award for Excellence - New Construction/ Renovation

Retailing Excellence Award 2003
"The Little Shop" Memorial Medical Center



Lancaster General Hospital Orthopedic Center

Award of Merit for Innovation & Design of a Parking Facility

The Pennsylvania Parking Association 2002 Awards
First Avenue Parking Garage

Speculative Office Building of The Year 2002

National Association of Industrial and
Office Properties (NAIOP)
Quantum I

Building of the Year Award, 2002

Building Owners and Managers Association of Pgh.
Adaptive Reuse of The Allegheny County Jail

Honor Award

AIA Pittsburgh Design Awards 2001
Adaptive Reuse of The Allegheny County Jail



First Avenue Garage, Pittsburgh Parking Authority



architecture
planning
interior design



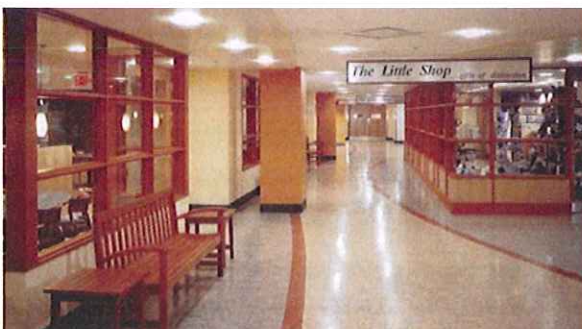
Adaptive Reuse of Allegheny County Jail



Adaptive Reuse of Allegheny County Jail



Women and Babies' Hospital of Lancaster General



"The Little Shop," Memorial Medical Center

2001 Master Builders Award

Design/Build Category

Master Builders Association

Adaptive Reuse of the Allegheny County Jail

Merit Award

AIA Pennsylvania

Adaptive Reuse of The Allegheny County Jail

Best Rehabilitation/Restoration/Renovation Award

National Design Build Award

Design Build Education and Research Foundation

Adaptive Reuse of The Allegheny County Jail

Finalist

Business Week / Architectural Record Magazine

Adaptive Reuse of The Allegheny County Jail

Reconstruction Project Award

Building Design & Construction Magazine

Adaptive Reuse of The Allegheny County Jail

Historic Preservation Construction Project Award

Preservation Pennsylvania

Pennsylvania Historical and Museum Commission

Adaptive Reuse of The Allegheny County Jail

Preservation Award

Historic Review Commission of Pittsburgh

Adaptive Reuse of The Allegheny County Jail

Commendation

Pittsburgh History and Landmarks Foundation

Adaptive Reuse of The Allegheny County Jail

Award of Excellence

Associated Builders & Contractors, Inc.,

Keystone Chapter

Women & Babies' Hospital of Lancaster General

Finalist Design/Build

Master Builders' Association of Western PA

Quantum One

Finalist Under \$7 Million

Master Builders' Association of Western PA

The Institute - Clinic and OR-14

Awards & Recognition



architecture
planning
interior design



*International Brotherhood of Electrical Workers
Local #5 Headquarters*



Quantum One Office Building



Wood Street Station



*Western Pennsylvania
Hospital Parking Garage*

Finalist Excellence in Craftsmanship

Master Builders' Association of Western PA
International Brotherhood of Electrical Workers
Local #5 Headquarters

Finalist Building Excellence Awards

Master Builders' Association of Western PA
The Western Pennsylvania Hospital
Labor and Delivery Rooms

Honor Award: Excellence in Design

Port Authority Transit, Allegheny County
Pennsylvania Society of Architects
Wood Street Subway Station

Honor Award

American Institute of Architects, Pittsburgh Chapter
Wood Street Subway Station

Building of the Year

Building Owners and Managers Association of Pgh.
The Pittsburgh Ballet Theater

Merit Award: Excellence in Architectural Design

Pennsylvania Society of Architects
The South Side Hospital

First Honor Award

Pennsylvania Society of Architects
Western Psychiatric Institute and Clinic,
Parking Garage

***Selected as one of two hundred significant
architectural projects through the history of the
U.S.***

American Institute of Architects
Chatham Village



Allegheny

Design Services

Structural & MEP Engineering

102 Leeway Street
Morgantown, WV 26505
Phone: (304)599-0771
Fax: (304)599-0772

E-mail: Dave@AlleghenyDesign.com
Web: www.AlleghenyDesign.com

FIRM PROFILE

Allegheny Design Services is a consulting engineering firm specializing in structural building design and building analysis.

Dedicated to serving West Virginia and the surrounding region, ADS recognizes the need for reliable and full service structural engineering support. ADS provides all phases necessary for the successful completion of a building project including schematic design studies, design development, construction documents and specifications, and construction administration. We currently hold licenses in West Virginia, Pennsylvania, Maryland, Virginia, District of Columbia, South Carolina and Ohio.

ADS's experience exceeds twenty-five years in the Design and Project Management of:

Commercial Facilities

Industrial Facilities

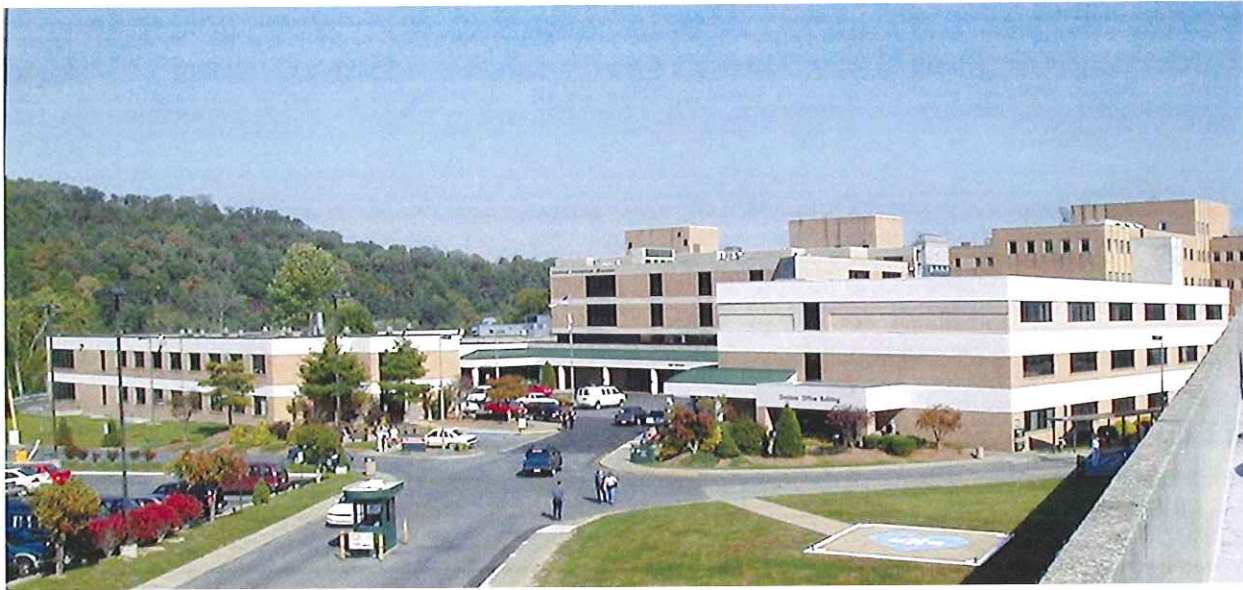
Institutional Facilities

Educational Facilities

ADS was established by David Simpson, P.E., MBA, in 2002 as a result of a need in North Central West Virginia for reliable structural engineering services. ADS utilizes a combination of office technology and a motivated staff to deliver projects typically up to \$25 million in construction value. We have completed design work for over \$300 million in construction since our inception. Our clients include architects, contractors, developers, attorneys, and insurance companies.

Building systems delivered by ADS include structural steel, reinforced concrete, precast concrete, and structural timber. ADS currently utilizes the latest engineering design and BIM software for the development of project work.

ADS is covered under a \$2 million liability policy for errors and omissions through Travelers C & S Co. of America.



ABOUT **ZDS** DESIGN/CONSULTING SERVICES

ORGANIZATION

ZDS OFFERS AN EFFECTIVE ORGANIZATIONAL STRUCTURE; ONE THAT TAKES EACH PROJECT FROM INCEPTION THROUGH COMPLETION, WORKING AS AN EXTENSION OF THE CLIENT EVERY STEP OF THE WAY.

EXCELLENT MECHANICAL AND ELECTRICAL DESIGN RESULTS FROM AN EXPERIENCED TEAM, AS WELL AS LISTENING TO THE NEEDS OF THE CLIENT.

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

Todd A. Zachwieja, PE, C.E.M., LEED AP, Chief Executive Officer, brings with him over 28 years in the design and consulting business.

Ted T. Zachwieja, Principal over Construction Administration services, has over 45 years experience in the design and consulting business. He was owner of Ted T. Zachwieja & Company from 1962 to 1982.

Daniel H. Kim, Ph.D., Manager of Strategic Planning, brings with him over 22 years in the design and consulting business and is one of the nation's leading experts in organizational management. He is also owner/founder of Pegasus Communications, Inc. from 1991 to present.

Lori Zachwieja, CPA, Chief Financial Officer, was cofounder of ZECO Consultants.

SERVICES

MECHANICAL
INDOOR AIR QUALITY
ENERGY

ELECTRICAL
COMMISSIONING



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

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

ZDS believes in the team approach when providing engineering design and consulting services. We start with our client as the number one member on our team. We listen to the needs and concerns of our client and that becomes the basis for our design. Our design expertise includes:

MECHANICAL DESIGN

Heating & Ventilation
Air Conditioning
Piping
Environmental Controls
Process Controls
Refrigeration
Plumbing
Medical Gases
Sprinkler-Fire Protection
Master Planning

ELECTRICAL DESIGN

Power Distribution
Interior Lighting
Exterior Lighting
Emergency Power
Communications
Technology
Fire Alarm
Security
Life Safety
Master Planning

ZDS provides comprehensive design services. We have experience and specialties in indoor air quality, energy management and commissioning, along with traditional mechanical and electrical design experience dating back as far as 1958. We offer a complete package.

ZDS works with all levels of the client's staff: the building owner, the budget supervisor, the operating and maintenance staff and others impacted by the project. We recognize that the maintenance and operating staff live with the design long after the project's completion. We listen to and work with those who will continue to operate and maintain the equipment. We find that proper communication benefits the client throughout the design process and beyond.

The **ZDS** design team provides a total system evaluation for cost-effective selection, installation, and ease of maintenance for both new systems and retrofit of in-place systems.

Design begins with our client. Our staff meets with our client to review their concerns, budgets and schedules. The **ZDS** design team reviews the entire picture, and ends with "A Total Design."

COMPANY LEGAL NAME

ZDS Design/Consulting
Services

LOCATION OF INCORPORATION

West Virginia

PRINCIPAL OFFICERS

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

Ted T. Zachwieja, Principal

Daniel H. Kim, PhD

Lori Zachwieja, CPA

OFFICES

St. Albans, WV

Morgantown, WV

NUMBER OF EMPLOYEES

ZDS currently employs 11
design professionals.

INDOOR AIR QUALITY SERVICES

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

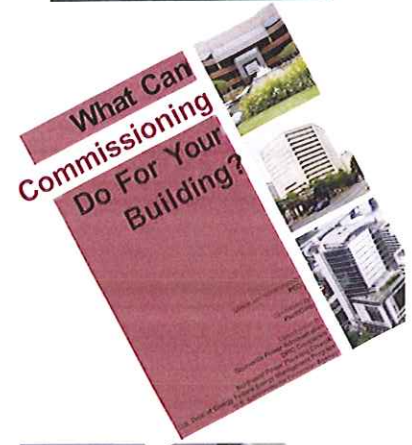
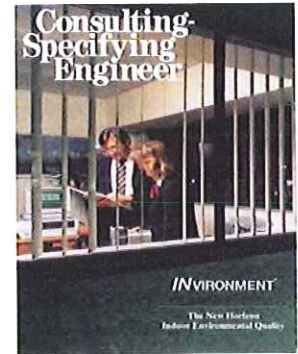
Todd Zachwieja, **ZDS** principal, is contributing editor for the following IAQ publications:

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

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

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

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





SUMMARY

At **ZDS**, our engineering staff integrates energy efficiency into each project design to provide you, our client, with the added value that you expect and deserve. The **ZDS** team approach represents a tremendous amount of experience in designing energy efficient facilities. **ZDS** offers a comprehensive range of energy management services that includes:

- Providing detailed analysis of facilities.
- Recommending sound and proven energy saving solutions.
- Implementing energy management improvements.
- Determining, quantifying and assisting in securing available Utility and Government grants.
- Evaluating and documenting utility savings.

Todd Zachwieja received AEE's LEGENDS IN ENERGY AWARD in 2007 and 2008 for lifetime achievements in energy. The **ZDS** team members take pride in the quality of their projects and have been responsible for designing and implementing numerous energy management programs. These programs are providing significant energy improvements and include optimizing, central utility plant equipment, control systems, air handling systems, lighting systems, and other energy consuming equipment.



Recent projects include:

- Interconnecting boilers and chiller plant systems.
- Designing Geothermal HVAC systems.
- Optimizing HVAC equipment and operating sequences.
- Installing Direct Digital Control (DDC) Energy Management Systems.
- Replacing inefficient lighting equipment with energy efficient systems to variable speed operation.
- Modifying air handling equipment from 100% outside air to return air operation.
- Implementing heat recovery units into HVAC equipment.
- Improving laundry, kitchen and other process application efficiencies.

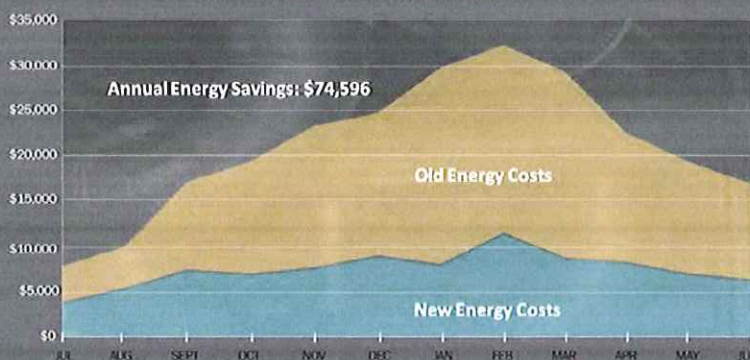
In addition to the energy management projects outlined above, the **ZDS** team members have extensive experience in identifying and implementing energy efficient operating and maintenance measures. These are typically low cost or no cost measures that include:

- Inspecting, calibrating temperature controls and adjusting outdoor air dampers.
- Commissioning economizer cycle operation.
- Testing steam traps and pressure relief equipment operation.
- Enabling heating and cooling equipment only when required.

Webster County Schools



Geothermal Heat Pump Energy Savings



ZDS designed the first and largest geothermal system in West Virginia and the surrounding area.

The **ZDS** team is trained and experienced in advising you of program options to incorporate energy efficiency and operational savings features into the design of your new construction and renovation projects. At **ZDS**, we view our role as helping you to define your own energy efficiency needs and goals through identifying energy savings options and providing supporting financial information. We then help you fit your energy efficiency needs and goals into a workable budget and schedule, and then design a program to fill those needs.

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

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

commissioning process offers the following benefits:

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

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

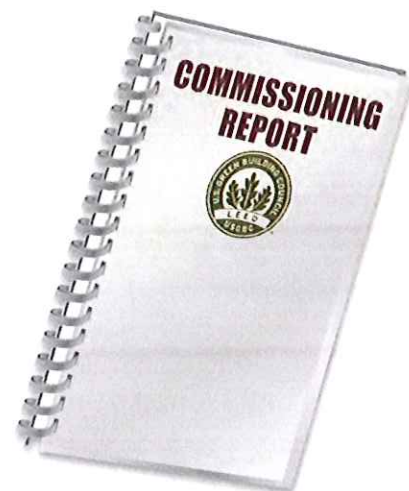
NATIONAL RECOGNITION

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

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

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

The most important member of the design team is the client. We make every effort to involve our clients throughout the entire process, from the planning through the construction and beyond.





The **ZDS** design staff continuously provides engineering design services value well into the millions of dollars on a variety of project types. Designing expertise goes as far back as 1958.

Through the efforts of our staff, project locations include:

West Virginia	Michigan
California	New York
Colorado	North Carolina
Connecticut	Ohio
Florida	Pennsylvania
Georgia	South Carolina
Hawaii	Tennessee
Illinois	Texas
Indiana	Virginia
Kentucky	Washington, DC
Maryland	Wisconsin
Massachusetts	

ZDS clients can rest assured that the design team will be available, not just for the year or two that we are involved in the initial design and construction, but also for years that follow as questions arise about your facility. A good engineered system and its equipment should last 15 to 40 years. Why not select a design firm with experienced staff committed to their projects with a comparable track record.

The **ZDS** design team will provide comprehensive services utilizing experienced staff through planning, cost estimating, engineering, coordination of bidding, regular site visitation during construction and specifications for equipment. You, our client, will greatly benefit from a single point of responsibility for every need your project may have.

The **ZDS** staff has the expertise with codes and standards. We have extensive experience in conducting engineering code surveys of existing facilities. Our staff has excellent working relationships with the West Virginia Fire Marshal's Office and the West Virginia Department of Health and Human Resources.

In addition to comprehensive Engineering services from an experienced design team, another major consideration in the selection of your engineer and design staff should be their track record. **ZDS'** organization has an unbeatable, long running, and well-known track record for meeting our clients' needs, on time and within budget, with outstanding quality.

ZDS views these characteristics as the foundation of Quality. We look forward to the opportunity to discuss our ideas with you and assist you by providing solutions for your needs with a full range of services from Planning to Commissioning.

CLIENTS

Greenbrier West High School

Woodrow Wilson High School

James Monroe High School

Winfield High School

East Hardy High School

Raleigh County Schools

Elkins Middle School

Ritchie County Middle School

McDowell County Southside K-8

Smithville Elementary

Webster Springs Elementary



Inpatient Services Design



The most successful approach to the design of inpatient units continues to focus on creating a superior patient experience. This includes creating a comfortable environment as well as establishing a physical organization of functional spaces that supports efficient work patterns for all staff types.

architecture
planning
interior design

The patient rooms need to be designed with an attention to hospitality type of amenities. Single bedded rooms are now a requirement and care needs to be shown in the design to zone the room into family, patient and staff areas. Design needs to support a holistic approach to healing. Support for today's lifestyle for patient and family is important. View access is advantageous.

Decentralized nursing assists in patient satisfaction, acoustic control, reduced patient falls and staff retention by reducing travel demands. A unit secretary hub remains an important component to central information and consult management. Staff respite areas are an important element to include to help the support staff efficiency and job satisfaction.

Inpatient Services Design Experience



architecture
planning
interior design



Allegheny General Hospital
24-Bed Trauma ICU
8-Bed LDRP
16-Bed Pediatric Step Down Unit
60-Bed Skilled Nursing
700-Bed Snyder Pavilion

40-Bed Rehab Unit
10-Bed Brain Injury Unit

UPMC Horizon Greenville
8-Bed LDRP Unit
Skilled Nursing Unit

Aliquippa Hospital
18-Bed Skilled Nursing Unit

UPMC Shadyside Hospital
200-Bed Patient Tower



Children's Home Of Pittsburgh
11-Bed Transitional Care Unit

UPMC South Side Hospital
255-Bed Replacement Hospital
22-Bed Psych Unit

Forbes Regional
21-Bed Acute Care Rehab Unit

Veterans Administration
180-Bed Delaware Valley
225-Bed Southwestern PA
Veterans Center

Harmarville Rehabilitation Center
24-Bed Acute Care Rehab Unit



Lancaster General Hospital
18-Bed Total Joint Orthopedic Unit
24-Bed General Orthopedic Unit
16-Bed Infectious Disease Unit
22-Bed Telemetry Unit
20-Bed 4 East Orthopedic Unit
24-Bed 3 West Med Surg Unit
20-Bed 4 West Step Down Unit

West Penn Hospital
24-Bed Cardio-Thoracic Step
Down Unit
27-Bed Orthopedic Unit
36-Bed Subacute Unit
32-Bed Acute Rehab Unit
27-Bed Progressive Care Unit
26-Bed Med-Surg Unit
12-Bed Swing Unit
16-Bed Post Partum Unit
15-Bed LDRP
12-Bed Psych Unit

Medical College of PA
18-Bed Step Down Cardiology Unit

Metro Health System, Erie
16-Bed Geri-Psych Unit

Women's & Babies Hospital
42-Bed Patient Unit
8-Bed Special Care Unit
8-Bed Patient Unit Expansion
16-Bed Gynecological Unit
10-Bed LDRP
23-Isolette NICU
18-Bed Post Partum Unit

Sharon Regional Health System
20-Bed Adult Psych Unit
14-Bed Adolescent Psych Unit

**Summa Health System,
Orthopaedic Center**
3, 24-Bed Orthopaedic Units

**West Virginia University
Hospitals**
24-Bed Step Down Unit
18-Isolette NICU

**The Reading Hospital And
Medical Center, Post Acute
Hospital**
55-Bed Long Term Acute Care Unit
10-Bed High Observation Unit



UPMC Mercy Hospital Physical Medicine and Rehabilitation *Pittsburgh, Pennsylvania*



architecture
planning
interior design



IKM was retained to renovate the sixth and seventh floors of E & F Buildings in support of a planned Physical Medicine and Rehabilitation Center of Excellence initiative at UPMC Mercy Hospital.

The design requires creating a new public circulation path to divert unrelated pedestrian traffic around the new unit. Additionally, some of the core areas to support the new unit will be reconfigured and additional dining/lounge and therapy/gym space will be developed. As a result of bringing the nursing and therapy activities together a more cohesive treatment team is anticipated.



The units will be a mixture of existing inpatient rooms and new rooms designed to meet census demands. A decentralized nursing model will incorporate nurse workstations adjacent to pods of patient rooms to improve patient observation and nursing response times.



**The Reading Hospital and Medical Center
Post Acute Care Hospital Patient Units**
Reading, Pennsylvania



architecture
planning
interior design



IKM was selected in a competitive design process to program, plan and design a new post acute care hospital for The Reading Hospital and Medical Center (TRHMC). This new facility will house the entire post acute continuum of care provided by TRHMC.

Unit (converted to TCC beds because of CMS rules limiting new LTAC development), 54-bed Inpatient Rehabilitation Unit, 11-bed Brain Injury Unit, Imaging Department, Pharmacy, Clinical Labs, Outpatient Physical Therapy, Inpatient Physical Therapy, Nursing Education, Outpatient clinics, Dietary, and Café services, and building and administrative support.



The new building will be a specialized hospital designed for the specific needs of long term acute care (LTAC) patients, inpatient rehabilitation patients, and transitional care patients (TCC).

The project team developed a series of detailed adjacency and stacking diagrams for the various departments. Major program elements for the new 186,000 square foot facility include: 55-bed Long Term Acute Care Nursing

The project proceeded on a Fast Track schedule. Bid packages were released roughly two months apart beginning with foundations and steel, then core and shell packages.

The new specialty hospital is the first of its kind in the region, setting the standard of care for the post acute continuum in the region.

Lancaster Women's and Babies Focused Expansion Project

Lancaster, Pennsylvania



architecture
planning
interior design



As the architects of record for the Women's and Babies Hospital, IKM was commissioned to design a 2-story addition, single story courtyard infill and renovation of existing space to accommodate increasing operational demands on the facility.

The addition includes 11 new single patient post partum rooms and two Level 1 nurseries with 16 bassinets each. New support spaces include nurse station, documentation area, nurse office medication station, clean supply room, soiled workroom and equipment storage. The Pharmacy will be located on the second floor of the addition, the remainder of the space will be for future use.

The courtyard infill includes expansion of the NICU and triage areas. The NICU will feature new isolett stations that meet the Guidelines for Perinatal Care from the American Academy of Pediatrics. The expansion and renovation will also include an expanded family support area with two sleeping rooms, family bonding area and toilet/shower as well as additional staff work areas, relocated procedure and storage space.

The existing triage area is being expanded to include more space for outpatient functions. Additional exam/procedure spaces are being created as well as a new dedicated waiting and reception area

Lancaster General Hospital Inpatient Room Renovations Lancaster, Pennsylvania



architecture
planning
interior design



Lancaster General Hospital, as part of a continuing effort to upgrade their inpatient units selected IKM to design aesthetic improvements to the 3-West and 4-West Patient Units. These projects used existing space in semi-private rooms to create the much-needed areas of family waiting and equipment storage.

With no changes in the patient bedroom footprints, the resultant 22-bed patient unit in 3-West includes 16 private patient rooms and 3 semi-private rooms. Aesthetic upgrades to the patient rooms included: new HVAC, finishes, wardrobes, televisions, bed locators, handwash sinks,

lighting, and additional supplemental power outlets.

The 4-West Unit project is a conversion to a 20-bed unit with new wardrobes and room sinks and conversion of existing space on the fourth floor to a waiting room.

The patient toilet rooms in both units retained their plumbing fixtures and the rooms received new ceilings, wall paint, lighting, and some accessories as well as new door and hardware for the toilet rooms within the existing frames.

The corridors also received new

finishes, lighting, and HVAC distribution. New patient chart holders and wall sconces were included to complete the upgrades.

The core area was renovated to provide more efficient care delivery including an ancillary Nurses Station at the end of the one corridor to move the nursing staff closer to the patient rooms.



Post Partum Unit, Women's and Babies Hospital of Lancaster General *Lancaster, Pennsylvania*



architecture
planning
interior design



Success in attracting a greater market share than projections was the impetus for expanding the Couplet Care Post Partum Unit at the Women's and Babies Hospital of Lancaster General. Utilizing space previously designated for expansion that had 'soft' moveable functions, the hospital expanded their bed complement of post partum rooms by four to 42.

Each private room was complete with hospitality-type amenities and views into a well-landscaped courtyard. The room design

supports family, patient, infant and staff zones and is appointed to duplicate the previously constructed rooms. While the patient type is normally a healthy women and child the room is equipped with the requisite medical gasses and lighting necessary to address any medical emergencies.

The project was constructed with Class III ICRA precautions and had a reduced work schedule to accommodate the adjacent post Partum patients.

WPH Forbes Regional Campus Inpatient Psychiatric Unit *Monroeville, Pennsylvania*



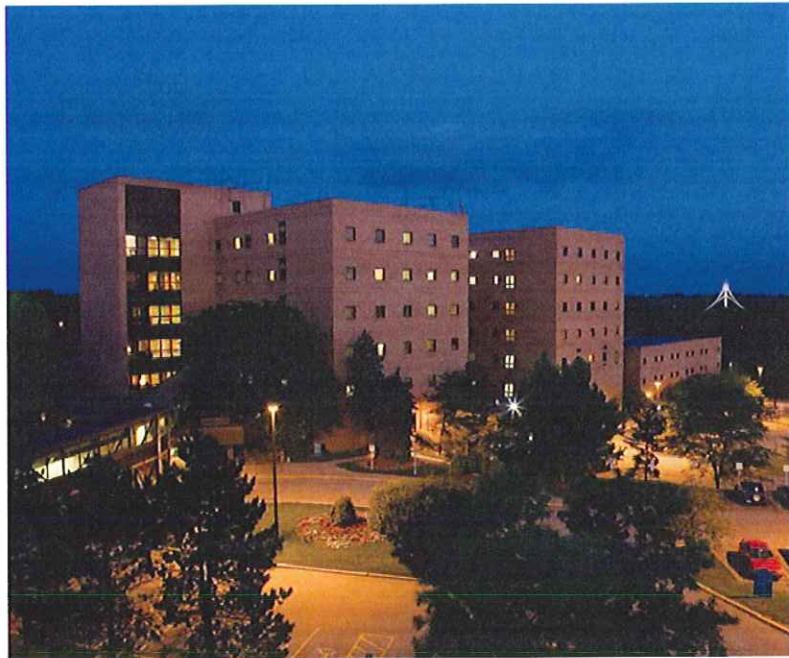
architecture
planning
interior design

IKM was called upon to renovate an existing 40-bed, 20,000 square foot inpatient psychiatric unit for code compliance, security and ongoing maintenance repairs.

This project involved bringing the unit up to current codes and standards such as adding 2 new code compliant seclusion rooms. These rooms were designed with the required anteroom/toilet room arrangement, door hardware, and finishes these types of rooms need to function properly. The old door knobs were removed from the patient toilet rooms and recessed pulls and roller latches were added to the existing doors to meet current safety measures for the patients.

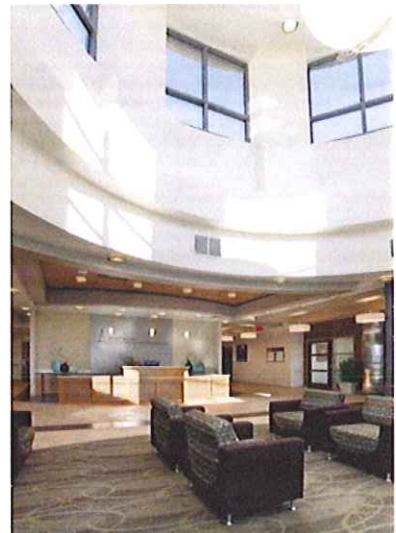
The existing mechanical unit for this area was over 30 years old and had to be replaced as part of the project. This eliminated maintenance problems and added to patient and staff comfort.

Security was also addressed. A new nurse station was designed that provided just the right balance between encouraging interaction between patients and staff while providing a secure location for staff to use when needed.





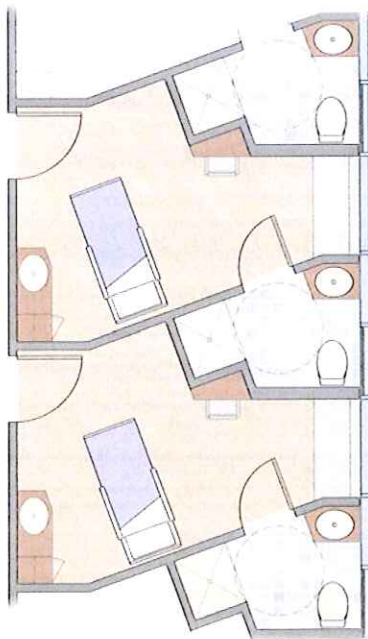
architecture
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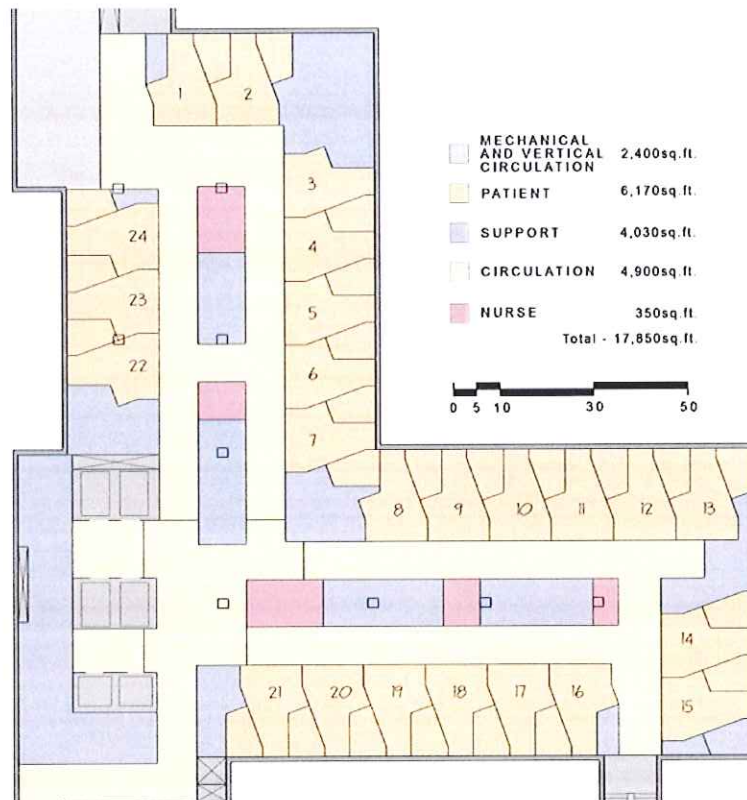
West Virginia University Hospitals Ruby Memorial Patient Unit Study Morgantown, West Virginia



architecture
planning
interior design



Same-Handed Room Plan



IKM was commissioned to conduct a feasibility study to examine the possible development of existing, shelled eighth floor of the NE Pavilion at Ruby Memorial Hospital to create an inpatient unit. The parameters of the study involved determining layout options assuming that the mechanical and electrical infrastructure was present to support any layout. Construction costs were not to be considered in this study. Two options for a generic ICU were developed as well as three options for a typical Medical/Surgical Unit. Criteria for the conceptual studies were based on the 2006 Edition of the AIA Guidelines for Design and Construction of Health Care Facilities.

The design team presented each of five options providing a keyed, color coded schematic floor plan with area summary, a larger scale plan illustrating a pair of adjoining patient rooms with associated toilet/shower rooms, and an analysis highlighting the features of each particular scheme.

The shelled, eighth floor space appeared to provide adequate space, sufficient windowed perimeter and adequate circulation/egress for the development of the space into an inpatient unit. The L-shaped footprint of the floor and central location of the elevator lobby appeared to be well suited to accommodate either the ICU or Med/Surg programs as well as to

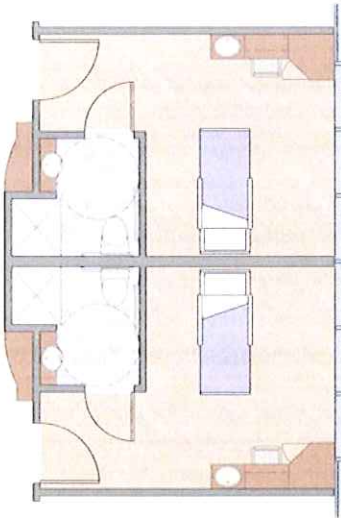
allow for high level of flexibility in the organization of support elements and distribution of nursing staff.

The IKM report did not attempt to evaluate whether the eighth floor should be developed as a critical care or general medical/surgical floor. This decision would have to be based on an overall evaluation of the hospital's needs. It appeared that the eighth floor is suitable for the development of either function.

As a result of IKM's study, WVU Hospitals elected to construct a 24-bed patient unit with outboard toilet rooms retaining their flexibility to potential convert to an ICU in the future.



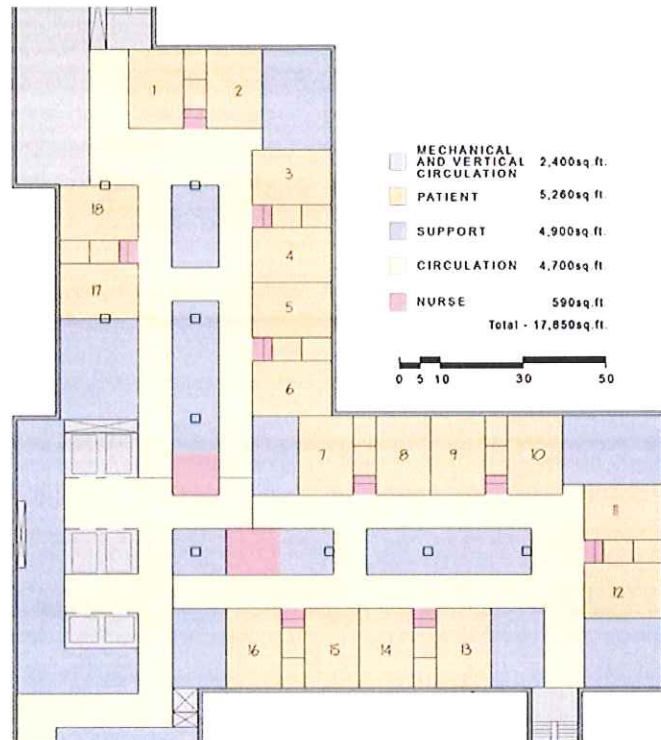
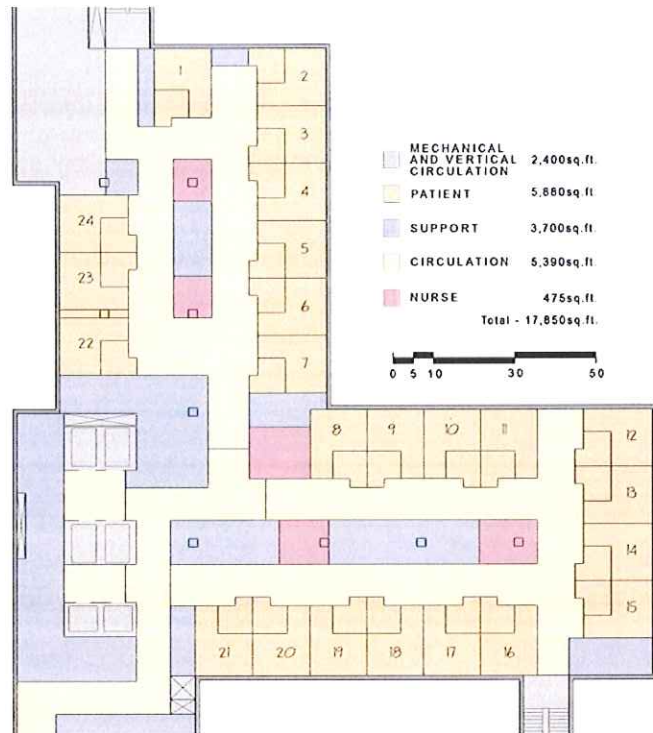
architecture
planning
interior design



*One Med/Surge Option
(Inboard toilets)*



*One ICU Option
(Midboard toilets)*



Summa Health System, Orthopaedic Center of Excellence Akron, Ohio



architecture
planning
interior design



IKM was selected to program, plan and design a new Orthopaedic Center of Excellence for a joint venture of a Summa Health System and one of the largest orthopaedic physician practices in the region. Having recently completed state-of-the-art orthopaedic facilities, IKM offered a competitive knowledge-base of expertise over the other firms being considered.

Currently in the construction phase, this project will set the standard for orthopaedic care in the region upon its completion. The program calls for approximately 78 private room in-patient beds, 12 operating rooms, six radiology rooms, an MRI and all of the associated support spaces for a facility of this type.

The new 12 Operating Room Suite will be organized with an equal number of rooms on either side of a sterile core to provide an added level

of infection control and a location where the case carts can be staged, to facilitate quick room turnover. The multi-boomed operating rooms will be designed for fully digitized equipment with cameras in the light heads as well as throughout the room giving complete visual access of the surgical field to observers at remote locations. The information management system will allow for automated room set-up specific to an individual surgeon as well as the ability to send still and video images to all web enabled locations for consultation.

The clients are seeking an architecturally distinctive facility that will differentiate the Center from the Hospital campus. The preliminary scope comprises 135,000 square feet of new construction and a project cost in the \$90 million range.



architecture
planning
interior design



**Erie County Medical Center, Center of Excellence for
Kidney Care and Transplantation**
Buffalo, New York



IKM Incorporated was retained by the Erie County Medical Center Corporation (ECMCC) to program, plan and design a new Center of Excellence for Kidney Care and Transplantation. Combining renovated hospital space with new construction this new program will provide a new outpatient renal clinical service program, a vascular access center, a dedicated renal inpatient nursing unit and an inpatient dialysis center all located in the existing ECMCC campus. Renovated spaces in the existing hospital include: outpatient renal clinic, vascular access center, renal inpatient nursing unit, and inpatient acute dialysis.

The Outpatient Renal Clinic will provide outpatient services to the pre-and-post transplant patient population. This scope of work includes exam rooms, treatment

rooms, patient waiting/reception areas, administrative offices and physician work spaces, and the associated support spaces.

The Vascular Access Center includes two outpatient procedure rooms and an ultrasound room together supporting the chronic hemodialysis center. Dedicated patient and clinical support spaces will be provided.

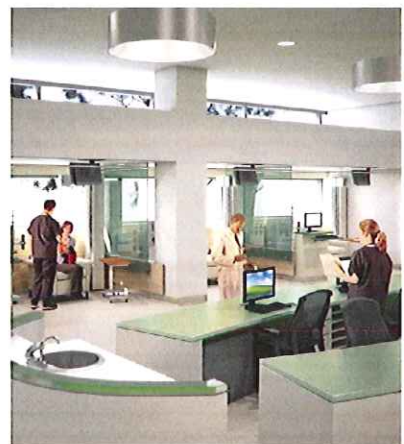
The Renal Inpatient Nursing Unit is a 24-bed nursing unit to support the kidney transplant population as well as other acute renal patients. All existing patient rooms are being demolished and replaced with new, state-of-the-art single-patient rooms. Staff and clinical support functions will be located on the floor as well as a dedicated family lounge and restrooms.

An Inpatient Acute Dialysis Center will support the renal inpatient nursing unit with dedicated clinical support spaces and an infection isolation bay.

Also included in this initiative is a free-standing outpatient chronic hemodialysis center connected to the existing ECMCC hospital. This 4-story building will include a second floor medical office space. This freestanding building will be located on the ECMCC campus and will include 36 hemodialysis chairs, outpatient education and community outreach offices, home dialysis training, and all associated clinical support spaces. The center will be connected to the existing hospital via a newly constructed corridor.



architecture
planning
interior design



Lancaster General Hospital Orthopedic Center, Patient Units *Lancaster, Pennsylvania*



architecture
planning
interior design



Lancaster General Hospital in Pennsylvania determined that they could improve patient care and the outcomes of their orthopedic patients if they pulled that service line into a separate, yet co-joined facility. They retained IKM to design a state of the art Orthopedic Specialty Hospital that would redefine the standard of care for the community. The project reshapes the hospital's image by creating a grander, more hospitality-like entry reflective of it's vision for healthcare and commitment to the community.

The private patient rooms have hospitality accoutrements of an inlaid wood look floor, armoire, comforter and higher end finishes. The rooms are zoned into a family/ caregiver zone, patient zone and staff zone. The family zone includes a sleep chair, independent lighting and data port. The patient rooms are laid out around the perimeter with a central nursing/support core.

Nursing care is delivered using a hybridized model. A primary team station is near the unit entry where the Unit Clerk works. Consults and dictation occur in a discreet room off of this station. Other nurse work areas are distributed through the core and interspaced with support functions

The new Fourth Floor patient units are made up of two nursing units, a 18-bed total joint unit and a 24-bed general orthopedic unit. A new dedicated physical and occupational therapy suite was developed adjacent to the joint unit as support for the "Joint Camp" approach to orthopedic patient care.





architecture
planning
interior design



Behavioral Health and Psychiatric Treatment Facilities



architecture
planning
interior design

IKM has completed a number of behavioral health and psychiatric treatment facilities. IKM understands that in addition to inpatient nursing units, these facilities must also include diagnostic and treatment areas and appropriate support spaces. The trend toward more outpatient facilities is growing for treatment of this patient type. IKM understands the design adjacencies and circulation that must be considered when incorporating inpatient and outpatient treatment in one facility.

Other factors to consider in the design of behavioral health and psychiatric treatment facilities include: efficiency and cost-effectiveness, therapeutic environment, cleanliness, aesthetics, security and safety, and sustainability. The following pages highlight some of our experience.

Lakewood Psychiatric Hospital
Washington County, Pennsylvania



architecture
planning
interior design



Lakewood is a 3-story, 40 bed in-patient psychiatric hospital on a nine acre site. Part of a 110-acre campus rolling and wooded location is a beautiful rural setting in the northern part of Washington County, Pennsylvania.

At Lakewood, the building is divided into a series of volumes, planes and roofs, giving a strong village impression while still maintaining an all-important integrity of service and purpose. The project took advantage of the sloping site by creating one story partially below grade.

Our charge was to create a facility that would mirror patients' daily home environment and activities, to be as close as possible to normal living. A residential quality

and feeling is achieved through the use of gabled roofs, cedar siding, living rooms in the two 20-bed nursing units with sloping ceilings and fireplaces in the dining and lobby areas. The privately owned and operated, stand-alone facility is being constructed to fulfill much needed intermediate term acute psychiatric in-patient treatment beds, of which there is a critical shortage.



Southwood Psychiatric Hospital Residential Treatment/Inpatient Renovations Pittsburgh, Pennsylvania

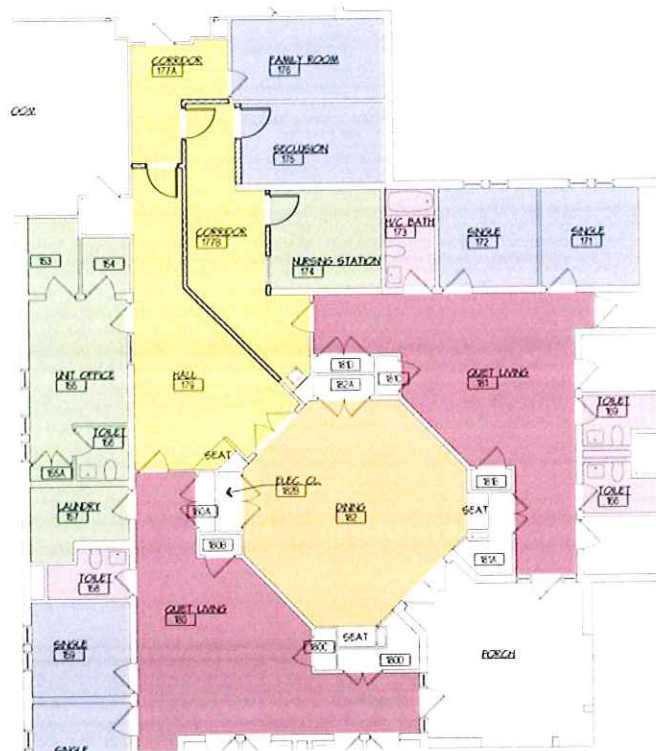


architecture
planning
interior design

The most recent project undertaken by IKM for Southwood Psychiatric Hospital involved renovation of existing inpatient psychiatric bed units to address current community needs and demand for a specific service-line. By redesigning existing space additional beds will be gained for the Sexually Maladaptive Behavior (SMB) Program that is a residential treatment program not a psychiatric nursing unit.

The major impact the design will have on the existing space is the provision of two separate and distinct units, two separate and distinct hallways, and two separate and distinct exits into the main hall. The new design will prevent any commingling of the two patient populations. This project upon completion will support the care models for two programs – SMB and Inpatient Psychiatric – in their appropriate separate spaces.

Facility users comprised of direct care workers, therapists, nurses, physicians and support staff as well as patients, residents, and families all will be better served in the two distinct new units. The result will be eliminating the current wait time for bed availability based upon demand and efficiencies gained by improved use of existing resources.



Sunnyview Nursing and Rehabilitation Complex

Butler, Pennsylvania



architecture
planning
interior design



IKM Incorporated was selected to provide professional design services for the renovations of Sunnyview Nursing and Rehabilitation Complex, the skilled nursing home in Butler County.

The projects undertaken at Sunnyview include the design of an Alzheimer Unit, renovations to the beauty salon, multipurpose room/chapel, creation of a rehabilitation suite, first-floor offices, and kitchen, the solarium, resident lounge, dining/activity room, nurse station and support spaces.



Lancaster General Hospital Orthopedic Center, Patient Units

Lancaster, Pennsylvania



architecture
planning
interior design



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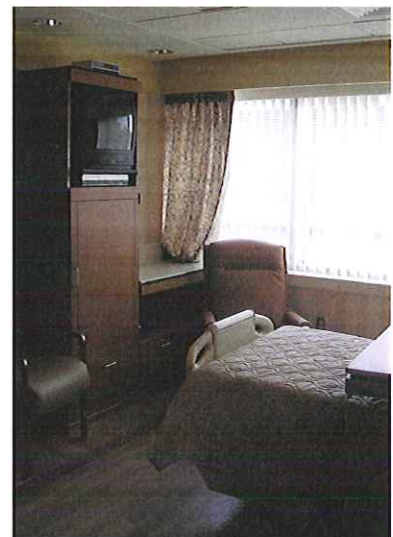
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architecture
planning
interior design



The Western Pennsylvania Hospital, T3 Orthopedic Patient Unit *Pittsburgh, Pennsylvania*



architecture
planning
interior design

The Western Pennsylvania Hospital secured the expertise of their long-standing architect, IKM Incorporated to upgrade an existing In-Patient Unit to focus on the specific needs of post-surgical orthopedic patients.

The renovation encompassed development of a large, central common area visible from the corridor to support their "joint camp" approach to joint replacement, minor therapy activities and other patient group functions. The unit's core support area was modified by eliminating two cross corridors and one Nurses' Station. The main Nurses' Station was shifted to permit the design of this common area to be used for multiple purposes and to support decentralized nursing care.

The 27-bed unit's patient rooms and corridors received finish upgrades to impose a hospitality design expression to the former institution aesthetic. This included new flooring, wall finishes and wall protection and lighting as well as a new water closet mounted at a higher elevation in each room's toilet room to support this patient type. ADA approved wall sconces were located beside each patient room door. The waiting room was also expanded with upgraded finishes.

Renovated as a Class III ICRA project, the HVAC, plumbing, electrical, and fire protection infrastructure were modified to accommodate the new layout.



Delaware Valley Veterans' Home
Philadelphia, Pennsylvania



architecture
planning
interior design



The Delaware Valley Veterans' Home is a Department of General Services project that is a 108,000-sf extended care facility located in Northeast Philadelphia on a previously undeveloped thirty-acre site adjacent to Benjamin Rush State Park. The Veterans' Home provides 170 beds distributed between Skilled Nursing Care, Personal Care and Dementia Units.



The design team provided all patient rooms with bay windows opening onto views of the park. Shared amenities such as the barbershop and the library are grouped together along the main corridor where it widens to

accommodate seating. The seating and corridor emulate the character of a public plaza and a street, providing a place for social interaction located near the main entry. In addition the facility offers dining services from a full service state-of-the-art kitchen using the latest technology for meal preparation and serving, spaces for recreation and social activities, an administrative suite and service facilities including a garage for maintenance of DMVA vehicles.

IKM/GBQC (Joint Venture) met the challenge posed by the Federal Veterans' Administration funding arrangement to design,



architecture
planning
interior design

document and bid the project within eight months. The design and documentation was shared between the two firms, with GBQC Architects taking the site planning and building envelope and IKM Inc. carrying out the clinical planning and interior layout. The project was awarded to the successful multiple prime contractors within the budget and in time to secure federal funding. Continuous collaboration between IKM Inc. GBQC Architects made it possible for the design team to achieve the owner's goals.



Delaware Valley Veterans' Home Alzheimer's Unit *Philadelphia, Pennsylvania*



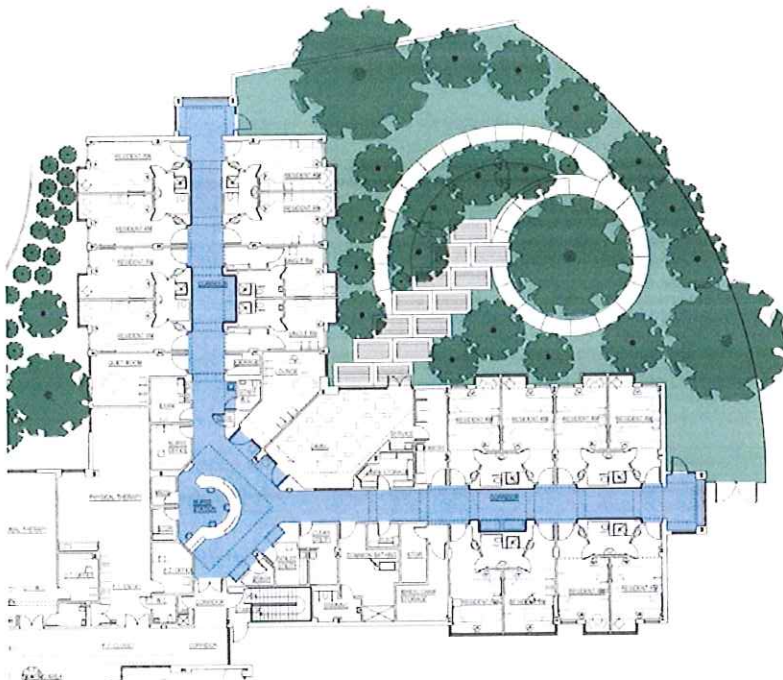
architecture
planning
interior design



A 30-bed Alzheimer's Unit was designed as part of the Delaware Valley Veterans' Home. Fashioned to create a neighborhood feeling with multiple opportunities for resident interaction, the well-organized floor layouts encourage residents to congregate. Alcove entrances create 'mini-neighborhoods' joining units into quads. Single and double units are available.

The successful design provides a neighborhood-like environment emulating the character of a public plaza and street. Different sections of the facility are color coded to distinguish locations within the building and to assist in wayfinding. The design also provides reference points and encourages independence through visual cues that foster a connection between past and present. Indoor and outdoor spaces offer opportunities for personal, semi-public and public activities.

The goal of the environment is to complement care planning by enhancing quality of life, maintaining human dignity, and enabling residents to be comfortable and safe while finding pleasure within the limits of their abilities.



Southwestern Pennsylvania Veterans' Center *Pittsburgh, Pennsylvania*



architecture
planning
interior design



The new Veterans' Center is designed to provide housing and nursing care in the best possible supportive environment for over 200 veteran residents. The spatial arrangement of the environment for the residents provides 160 skilled or intermediate nursing care beds in four nursing care units, 44 beds in dementia units, 28 domiciliary care beds and 4 day care beds.

The building is composed of two major wings of 3 and 4 stories arranged about a landscaped "courtyard commons," for outdoor activities.

The approximate 10.5-acre site was planned to make best use of functional, ecological and economical issues. The building is configured to work with the site to minimize disruption of the woodland setting and

maximize the veteran residents' opportunity to have a fulfilling quality of life.

The variety of pleasing and stimulating outdoor spaces near and around the building will enable the veteran residents choices in outside activities. The project was awarded by the Department of General Services



Southwestern Pennsylvania Veterans' Home Alzheimer's Unit *Pittsburgh, Pennsylvania*



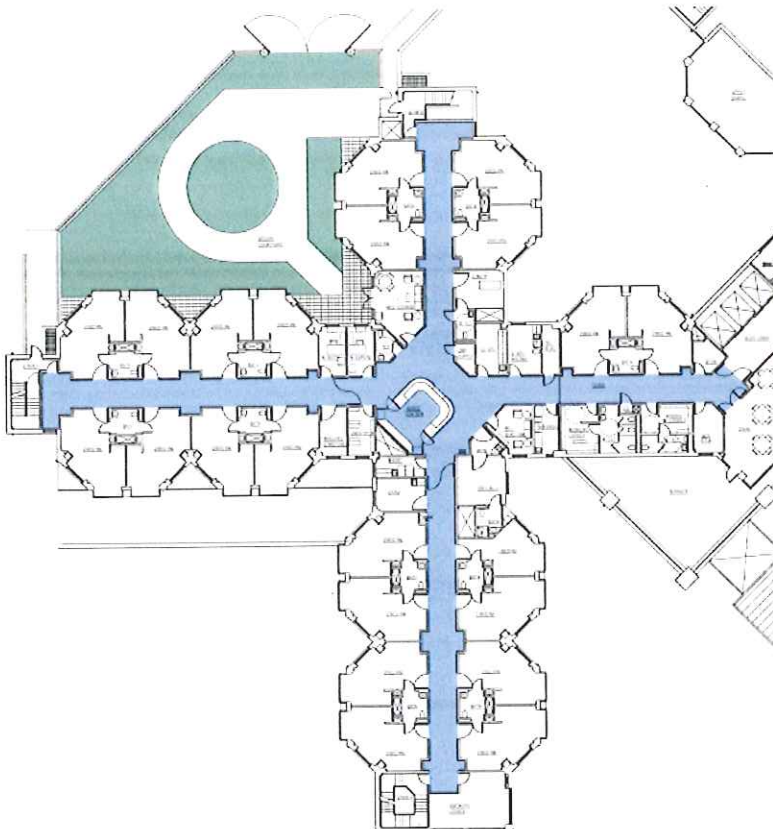
architecture
planning
interior design



As part of the overall project, IKM designed a 44-bed Alzheimer's Unit located on the second floor of the facility. The unit is designed to fully maximize the safety and security of the residents and includes a locked lounge entrance, dedicated dietary space and a separate fenced garden area for outdoor activities.

Conceptually, the environment is designed to complement care planning by enhancing quality of life, maintaining human dignity, and enabling residents to be comfortable and safe while finding pleasure within the limits of their abilities.

The successful design provides a homelike environment including indoor and outdoor spaces for personal, semi-public and public activities. The design also provides reference points and encourages independence through visual cues to foster a connection between past and present.



Design of Building Additions



architecture
planning
interior design

The design of building additions is driven by the many parameters intrinsic to expanding an existing facility as well as the unique goals and objectives of the particular project. Many initial questions need to be asked:

- Does the Owner want the addition to be contextual with the original building or should it be distinct?
- Are there certain materials, fenestrations, datum lines, etc., that the Owner wishes to reference with the addition?
- Should the addition be respectful of any historic designation or properties of the existing building?
- Are the floor to floor heights of the existing building supportive of current building technologies in the addition? If not, can the building's functionality be managed with floor levels that do not register?
- Does the addition need to be completely structurally independent of the existing?
- Can the new addition take advantage of any egress components of the existing building?
- Do the M/E/P systems need to integrate between the addition and the existing?
- Does the addition need to provide the accessibility needs of the existing building?



These and other questions are key to determining the direction of the design concept.



Once a design concept is approved within the context of the above questions the layout work of the functional components can proceed.

IKM understands how to effectively lead the design approach so that these issues are successfully addressed in a cost effective manner as conveyed by the attached list. We have a long history on successfully integrating a building addition into its context. We understand the complexities that surround the design of a building addition and know how to create solutions for each unique set of circumstances. We embrace each project and its specific needs and will develop the best solutions to meet its parameters. A selection of our recent building addition projects follows:



Allegheny General Hospital

AGH Northwest Wing Addition

AGH Hemlock Street Parking Garage Addition

AGH OR Suite Addition



Allegheny County

Allegheny County Office Building Additions (Study)

Butler County

Sunnyview Nursing and Rehabilitation Complex Addition



architecture
planning
interior design

Canonsburg General Hospital

Canonsburg General Hospital ED Addition

Charles Cole Memorial Hospital

Charles Cole Memorial Hospital Rehabilitation Center Addition

Conemaugh Memorial Hospital

Conemaugh Oncology Addition

Erie County Medical Center

ECMC Renal Services Medical Office Building Addition

Frick International Studies Academy

Frick International Studies Academy Addition

WPH Forbes Regional Hospital

Forbes Regional ED Addition

Grove City College

Grove City College Carnegie Hall Alumni Center Addition

Indiana Regional Medical Center

Indiana Regional Medical Center Emergency Department Addition

Indiana University of PA

IUP Fisher Hall Addition

Lancaster General Hospital

Lancaster General Hospital Orthopedic Center Front Entrance Addition

Lancaster General Hospital Overbuild Addition

Lancaster General Women's and Babies Focused Expansion Addition

Meadville Medical Center

Meadville Medical Center Addition (1994)

Monongalia General Hospital

Monongalia General Hospital Surgery Department Addition

Oakwood Center

Oakwood Radiation Oncology Gamma Knife Addition

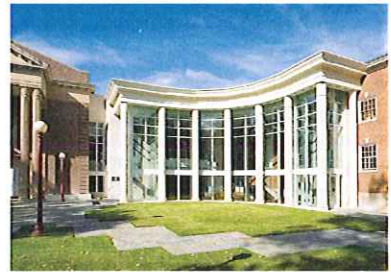
PA Department of General Services

DGS New Plant Industry Laboratory HQ Addition

Penn State University

Penn State Thomas Building Lecture Hall Addition

Penn State Hershey Medical Center Animal Quarters Addition



Design of Building Additions



architecture

planning

interior design



Phipps Conservatory and Botanical Gardens

Phipps Conservatory Welcome Center Addition

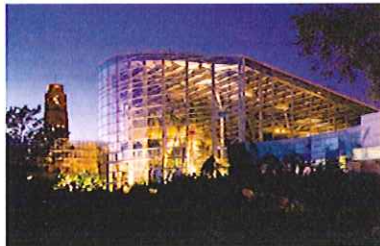
Phipps Conservatory Tropical Forest Addition

Phipps Conservatory Production Greenhouses Addition

Phipps Conservatory Special Events Pavilion Addition

Pittsburgh Public Schools

Pittsburgh Public Schools Colfax Addition



UPMC Shadyside Hospital

UPMC Shadyside Hospital Emergency Department Addition

UPMC Shadyside Hospital West Wing Addition

Shamokin Area Community Hospital

Shamokin Area Community Hospital ED Addition

St. Clair Hospital

St. Clair Hospital Emergency Department Addition

Tandem Healthcare

Tandem Healthcare Dining Facility Addition



UPMC Horizon Greenville

UPMC Horizon Greenville ED Addition

UPMC Horizon Greenville Ambulatory Surgery Addition

UPMC

UPMC D-Wing Addition

VA Pittsburgh Medical Center

VA Pittsburgh Medical Center Data Center Consolidation Addition



Western Pennsylvania Hospital

Western Pennsylvania Hospital Conference Center Addition

Western Pennsylvania Hospital OR Suite Addition

Western Psychiatric Institute

Western Psychiatric Institute Education and Research Center Addition

Western Psychiatric Institute Research and Reference Library Addition

West Virginia University

West Virginia University White Hall Computer Lab Addition

Selected Healthcare Experience



architecture
planning
interior design

ALLEGHENY GENERAL HOSPITAL

Pittsburgh, Pennsylvania

As the architects of record, we provide planning, architectural and interior design services. Our work for this institution includes:

Master Planning/Land Use Studies: Five-, Ten- and Twenty-Year Institutional Master Plan, NorthSide Campus Master Facility and Master Site Plans, Ohio Township

North Hills Master Plan and Replacement Hospital: Design of a 2 million square foot healthcare complex, to accommodate nearly 10,000 persons. The project program called for a new replacement hospital, ambulatory care center, professional office building administrative office building, visitor's center, academic center, research laboratories, parking facilities and necessary vehicular and pedestrian circulation systems.

Northwest Wing Emergency Department: expansion included a new 24,800 s.f. second floor housing the new Emergency Department, a new 24,800 s.f. third floor of the relocated and expanded TICU, and an 8,100 s.f. fourth floor penthouse to house mechanical equipment.

Allegheny General Hospital Comprehensive Cancer Center: four story Freestanding cancer treatment center with hospitality-driven care.

AGH Minimally Invasive Surgery Suite (MISS): Architectural design of a minimally invasive surgery suite (MISS), this operating room in conjunction with adjacent computer and audiovisual facilities was designed to facilitate the training of surgeons in the latest, high-tech robotic surgery methods.

East Wing Renovations: An entire five-level building was gutted and renovated to house a new surgi-center, ophthalmology clinic, dental clinic and over 30 physicians and their practices.

Allegheny Neuropsychiatric Institute: Complete renovation of the former West Allegheny General Hospital to house the Institute which provides rehabilitative inpatient care for impaired patients experiencing behavioral or emotional disorders related to a head injury, cerebrovascular disease or other neurological illness.

Interior renovation of 120,000 SF of office space for this Hospital departments and affiliated physicians.

Research/Professional Office Complex/Parking Garage
State-of-the-art Education and Conference Center including a





architecture
planning
interior design



display area, two auditoriums, meeting rooms, dining facilities, offices and ancillary spaces.

A 926-car **parking garage** and two-story, 308-car addition and pedestrian tunnel connecting with the complex.

Continuing Care Facility: A 120-bed free-standing skilled nursing care facility on the Hospital campus, including an enclosed connector to the hospital complex.

Satellite Renal Dialysis Clinic in a medical office building.

Various other projects include:

- | | |
|--------------------------------|----------------------------------|
| Administration | Epilepsy |
| Anesthesiology | Executive Offices |
| Angiography | Finance/Information Systems |
| Animal Quarters | First Floor Corridor |
| Auxiliary and Volunteer spaces | Fan Systems |
| Back and Pain Institute | Functional Imaging |
| Bed and IV Staging | G.I. Lab |
| Biliary Lithotripsy | Hazardous Waste Storage |
| Biomechanics Lab | Heat Recovery Unit |
| Birthing Center | Heliport |
| Boardroom Renovation | Home Care |
| Breast Imaging Center | Human Genetics |
| Building Design Standards | Human Resources |
| Cadaveric Dissection Lab | HVAC Upgrades |
| Cafeteria and Dining Room | ICU |
| Cancer Cell Biology Lab | Infectious Animal Lab |
| Cancer Center | Interior Design Standards |
| Cardiology | IVF America Clinic |
| Cashier's Area | Lab Central Receiving |
| Cast Room/Bone Bank | LDRP |
| CT Scan Facility | Lecture Hall |
| Cath Labs | Legal Department |
| Central Exhaust | Lifestages Renovation |
| Clerical Services | Lighting Standards |
| Clinical Dietary | Lobby Renovation |
| Center for Children | Lung Cancer Research |
| Central Monitoring System | Mammography Suite |
| Corporate Records | Master Planning |
| Courtyard Canopy | MRI |
| Cytoscopy Room | Mechanical/Electrical Upgrades |
| Dental Clinic | Medical Ambulatory Clinic |
| Department of Oncology | Medical Gasses |
| Dermatology Clinic | Medical Records |
| Developmental Genetics Lab | Medical Vacuum |
| Developmental Pediatrics | Minimally Invasive Surgery Suite |
| Dialysis Clinic | Neonatal ICU |
| Electrophysiology Lab | Neural Plasticity |
| Emergency Department | Neuro ICU |
| Emergency Generator | Neuro Science Center |

Selected Healthcare Experience



architecture
planning
interior design

Nitrogen Tank	Seclusion Room
Nuclear Cardiology	Security Fire Alarm
Nurse Alumni	Seminar Room
Nursery and ICU Nursery	Short Procedures
Nursing Education	Signage
OB/GYN	Site Work
Oncology	Skull Base Lab
Ophthalmology Research	Sleep Lab
Orthopedic Clinics	Smoking Tents/Alcove
Pain Clinic	Special Procedures OR
Pastoral Care	Spina Bifida Program
Patient Lounges	Staff Dining
Patient Room Standards	Stroke Unit
Pediatric Clinic	Surgery & Operating Rooms
Pediatric ICU	Surgery Outpatient Clinic
Pediatric Nursing Unit	Telecom/Data
Pediatric Recovery	Telecommunications
Physicians' Offices	Teleconferencing Room
Plastic Surgery	Tissue Typing Lab
Pneumatic Tubes	Total Living Center
Psychiatric Unit	Transplant Services
QA/UR	Trauma Intensive Care Unit
Radiation Oncology	Trauma/Emergency Training
Radiology Administration	Travel Office
Renal	Vascular Medicine/Biology Lab
Renal Satellite	Vacuum Pump
Research Laboratories	Visiting Nurses
Risk Management	Water Tank
Rodent Facilities	Window Replacement
Satellite Dish Replacement	X-Ray Diffraction Lab

ALIQUPPA HOSPITAL

Aliquippa, Pennsylvania

Interior Design Standards

Isolation Room

Obstetric Unit

Skilled Nursing Unit

Medical/Surgical Units

CANONSBURG GENERAL HOSPITAL

Canonsburg, Pennsylvania

Master Facility Plan: Partnering with the Hospital, IKM assisted in establishing the goals and objectives of the Facilities Plan. Goals identified included establishing a competitive assessment tool, optimum space allocations, future flexibility, operation efficiencies supported by facilities, and identification of short and long term capital requirements.

Emergency Department: an addition to the Canonsburg General Hospital to expand their emergency services to accommodate 23,000 patient visits.





architecture
planning
interior design



CENTER FOR ORTHOPEDIC EXCELLENCE

Martinsburg, West Virginia

Orthopedic Outpatient Surgery Facility - IKM was hired as the design partner in a design/build relationship to create a 12,000 s.f. ambulatory surgery center to accommodate a variety of specialty services including orthopedics, ophthalmology, anesthesiology and podiatry. Other spaces within the facility include pre-operative and recovery beds, an imaging suite, nursing and administration.

Professional Office Building - IKM was retained to design the second building in a medical campus setting in Martinsburg, West Virginia. This new 34,000 SF, three-story professional office building is connected to the TriState Surgical Services ambulatory surgery building.



CERCONE VILLAGE ON THE PARK

Bloomfield, Pennsylvania

IKM was commissioned by Trinity Associates development to design a state-of-the-art, three-story structure of 34,500 square feet as a new professional office building to house an increasing number of physicians' practices located in the Bloomfield area.

CGH MEDICAL CENTER

Sterling, Illinois



Master Facility Plan that would help strategically position the Medical Center in the marketplace; the final plan identified facility goals and objectives based on service lines for the next 5-10 years and created options to accommodate unforeseen new or expanded programs and services.

CHARLES COLE MEMORIAL HOSPITAL

Coudersport, Pennsylvania



5-year, \$25 million Master Facilities Plan

Medical Office Building

Inpatient Rehabilitation Unit

Laboratory Renovation/Addition

MRI Addition

Comprehensive Out-Patient Rehabilitation Facility

Community Fitness/Wellness Center

Woman Care Center

Oncology Center

Selected Healthcare Experience



architecture
planning
interior design

CHILDREN'S HOSPITAL OF PITTSBURGH

Pittsburgh, Pennsylvania

Children's Hospital of Pittsburgh, Task Order Work
Pittsburgh, Pennsylvania

IKM was selected by Children's Hospital to complete hospital renovation projects in their existing facility on an as needed basis. Current projects have construction costs from \$150 thousand and up, they include:

Minimally Invasive Operating Room— renovation of existing sixth floor Surgery Department to accommodate a new minimally invasive operating room and support spaces.

Cardiac Intensive Care Unit – study to renovate existing hospital space to expand the pediatric cardiac intensive care unit by four rooms able to be served by existing support space. The design incorporates efficient workflow patterns and meeting current code requirements.

Outpatient Orthopedics – renovation of existing hospital space on the first and third floors to improve function and finishes. This project relocated the Hospital's outpatient orthopedics unit so that it could share radiology equipment with the Emergency Department and help better support the Emergency Department.

Pediatric Sleep Disorder Study Center – adaptive reuse of a suburban non-medical space to accommodate a sleep disorder clinic. This project has received a top score from the American Academy of Sleep Medicine.



CONEMAUGH HEALTH SYSTEM

Johnstown, Pennsylvania

Master Facilities Plan: Implemented over a four year period, the construction of a new building, the renovation and/or relocation of major areas of the hospital, upgrading the mechanical and electrical infrastructure, and the creation of a new outpatient center and parking area.

Conemaugh Oncology: the design of a freestanding cancer treatment center that will encompass both radiation and medical oncology joined with shared public spaces and a healing garden

Administrative Services

Ambulatory Surgery Suite

Building Facade Renovation

Department of Surgery Offices

Main Entry Lobby

New Addition - Imaging Center

New Outpatient Center and Wellness Center





architecture
planning
interior design



School of Nursing
Vascular O.R.

DELAWARE VALLEY VETERANS' HOME

Philadelphia, Pennsylvania

108,000-sf extended care facility that provides 170 beds distributed between Skilled Nursing Care, Personal Care and Dementia Units. Currently under construction, IKM- as part of a Joint Venture team, was able to design, document and bid the project within eight months to meet the client's aggressive schedule.



EYE AND EAR HOSPITAL AND INSTITUTE

Pittsburgh, Pennsylvania

Master Plan and Medical Office Building: a freestanding 9-story, 75,000 square foot research facility built atop an existing 1,400-car parking garage. The laboratory space is supported by animal holding areas, procedure rooms, operating rooms, equipment rooms and data rooms. Other programmed spaces include faculty offices, administrative space, conference rooms and a library

Pedestrian Bridge linking Medical Office Building with the hospital complex

Head and Neck med/surg unit and intermediate care (step-down) unit.
Central communications system

The Hospital's Otolaryngology Department academic offices, and E/N/T auxiliary services (speech pathology and vestibular audiology).

Outpatient clinics for the Hospital's Ophthalmology Department.

Otolaryngology private practice.

Ophthalmology private practice.

The Administrative Offices of Eye and Ear Institute.



FALK CLINIC

Oakland, Pennsylvania

Ophthalmology Clinic: conversion of an unused attic storage space into an Ophthalmology Clinic for Children and Adults. The waiting area for children was designed to provide children with a stimulating play space during lengthy eye examination procedures.

Orthopedic Clinic: renovations providing a private practice facility for a group of orthopedic surgeons.

University Surgical Associates: complete conversion of the unused basement to create a private practice facility for a group of University surgeons.



Selected Healthcare Experience



architecture
planning
interior design

Interior Renovations throughout the building.
Complete graphics and signage package.

FEDERAL NORTH RESEARCH COMPLEX

Pittsburgh, Pennsylvania

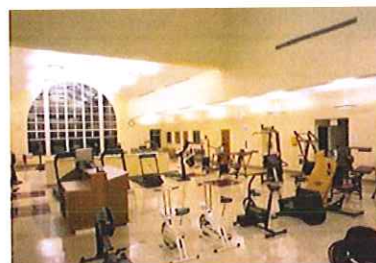
193,000 square foot freestanding office/research building and a 500 space parking garage, located a short distance away from the main hospital campus, this facility was designed with contextual sensitivity to the residential character of the surrounding neighborhood.



FORBES REGIONAL HOSPITAL

Monroeville, Pennsylvania

Growth and Expansion Plan Forbes Regional retained IKM Architects to plan and design the \$20 million, 60,000 square foot renovation and expansion of the 54-acre campus that will occur in sixteen phases. Essentially a "focused services" master plan, this project includes renovated cardiac and minimally invasive operating rooms, a new Intensive Care Unit, new GI Lab, new Cath Lab Suite with two procedure rooms, new Obstetric Department with 10 LDRPs, 5 Post Partum rooms and 2 Cesarean Section Rooms as well as a new relocated conference center, new entrance lobby, medical records and administrative offices.



Emergency Department for Forbes Regional Hospital to meet a projected demand of 53,000 annual visits up from 44,000 annual visits resulting in a plan that has 29 private exam/treatment rooms four of which are trauma rooms and three of which are mental health rooms.

Heart Center originally designed as an independent project to include open heart surgery operating rooms that would double as minimally invasive ORs, cardiovascular intensive care unit and Cath Lab Suite with procedure rooms and necessary support space, the Heart Center project was absorbed into the Growth and Expansion project above.



Relocation and renovation of the Obstetrics department including nurseries and LDRP rooms

Inpatient Unit Renovation of an existing hospital inpatient unit resulting in a 21-bed unit consists of seven private and seven semi-private rooms for acute care rehabilitation.



HARMARVILLE REHABILITATION CENTER

Harmarville, Pennsylvania

Master Facility Plan
Sub-Acute Care Unit



architecture
planning
interior design



Geriatric Program Lounge
Plastic Surgery
Biofeedback Relocation

HAZLETON-ST. JOSEPH'S MEDICAL CENTER

Hazleton, Pennsylvania



Admitting Renovations
Finance and Purchasing Department Relocation
Histology Relocation
LDR Renovations
Mini Master Plan - ER/Lobby
Nurses' Station Renovations
Outpatient Department/Outpatient Registration Renovations
Roof Replacement
Skilled Nursing Unit

HOLLIDAYSBURG VETERAN'S HOME

Hollidaysburg, Pennsylvania



Sommer Hall: renovation of an existing Veteran's Home into a skilled nursing facility, accommodating 148 residents in 1-, 2-, 3- and 4-bedroom units. Other spaces include examination, X-ray and therapy areas; patient and staff recreation and dining facilities; administrative offices; and support areas including supplies, linens, medication, storage and receiving.

INDIANA REGIONAL MEDICAL CENTER

Indiana, Pennsylvania



Focused Master Plan sets forth a five-year plan that upgrades key areas of Indiana Regional Medical Center to improve delivery of services

Bork Emergency Department addition to the existing hospital to create a state-of-the-art emergency department includes twenty exam/treatment rooms and three dedicated trauma rooms.

Other projects include:
Ambulatory Care Renovations
Cherry Tree Clinic
Code Deficiency Study
Cytoscopy Procedures Room
Engineering Services Upgrade
Radiology Renovations
Geriatrics Unit Renovations
Inpatient Unit Renovations
MRI
Nursery Unit Renovations
Nurses' Unit Revisions

Selected Healthcare Experience



architecture
planning
interior design

Nursing Offices Renovations
Outpatient Phlebotomy Center
Patient Floor Revisions
Phlebotomy/Mammography
Physical/Occupational Therapy
Physician's Office Renovations
Satellite Medical Facilities
Skilled Nursing Unit
Snack Bar/Gift Shop
Strategic Facility Plan
Surgery Renovations

JEANNETTE DISTRICT MEMORIAL HOSPITAL

Jeannette, Pennsylvania

Master Facility Plan provides a framework for evaluating the existing main campus facilities and presents concepts, recommendations, and action plans that improve service delivery, increase employee productivity, maximize space utilization, minimize operational expenditures and prepare for the future growth and development of the facility.

Emergency Department renovation evaluation/study.

Outpatient Center: Renovation of a former discount department store into a 35,000 SF Outpatient Center including Surgery Center, PT/OT, "All About Health" Community Wellness Center, Diagnostic Imagery, and Physicians' Practice Suites

JERSEY SHORE HOSPITAL

Jersey Shore, Pennsylvania

IKM was commissioned to develop and analyze the current infrastructure of the hospital and design an addition to house the medically intensive services. The program includes a 12 bay E.D., 2 room OR suite, therapies, radiology, clinics, a skilled nursing unit, a 25-bed inpatient med./surg. unit and support spaces.

KANE COMMUNITY HOSPITAL

Kane, Pennsylvania

Strategic Facility Plan IKM Incorporated was commissioned to conduct a strategic facility plan for a 40-bed community hospital in northern Pennsylvania. The existing facility was reviewed for patient/visitor flow, staff efficiencies, and effectiveness of current space adjacencies and utilization. Design recommendations were made concerning imaging, surgery, inpatient, med/surg, and the emergency department.





architecture
planning
interior design



New 10,000 square foot Medical Office Building

Regional Replacement Hospital: Currently in the programming phase of a regional replacement hospital major spaces will include an ambulatory procedure unit, intensive care unit, med/surg unit, and radiology. The hospital will also include an emergency room, geriatric psychiatric unit, laboratory, pharmacy, physical and occupational therapy, testing and surgery/recovery areas as well as all non-clinical and administrative support areas.



LAKESIDE PSYCHIATRIC HOSPITAL

North Strabane Township, Pennsylvania

Freestanding, three-story, in-patient psychiatric hospital on a beautiful, rural 9-acre site (part of a total 110-acre site). A residential quality and feeling is achieved through the use of gabled roofs, cedar siding, living rooms in the nursing units with sloping ceilings, and fireplaces in the dining and lobby areas.



LANCASTER GENERAL HOSPITAL

Lancaster, Pennsylvania

Orthopedic Center: \$60 million freestanding hospital dedicated patient services for the Orthopedic Service line that includes surgical services, inpatient units, in/out patient therapy and ambulatory care. The project re-orientes the 'front door' of the entire facility creating a new image and changing the focus of care to hospitality based.



4W and 3W Patient Unit Upgrades 20-bed and 22-bed patient unit renovations to create private rooms from semi-private spaces includes aesthetic upgrades to finishes, furniture, fixtures, lighting, paint, and accessories.

Women's and Babies Hospital: freestanding specialty hospital the services provided include: registration and outpatient area, acute services such as Ante-Partum and Labor and Delivery Rooms, Level II & III, Neonatal Intensive Care Unit (NICU), Operating Rooms, Post-Partum Rooms, In-Patient Gynecology Rooms and a Day Surgery Unit. The Facility is designed to respect the suburban nature of its family and is modeled on a hospitality approach to patient services.

Medical Office Building three-story, 44,000 sf, medical office building located next to the new Women & Babies Hospital (also designed by IKM). The program called for physician services to include obstetrics and gynecology, including treatment for high-risk pregnancy and infertility, family medicine, women's cancer specialists, neonatology, pediatric cardiology,

Selected Healthcare Experience



architecture
planning
interior design

pediatric rheumatology and pediatric pulmonology.

The **'D' Wing** at the Women's and Babies Hospital of Lancaster includes Diagnostic Imaging, Women's Resource Center and an Ambulatory Surgery Suite.

The **Ambulatory Surgery Suite** consists of two 400 square foot operating rooms and one 500 square foot operating room organized around a Sterile Core concept. The ORs support the full range of outpatient gynecological procedures with state of the art equipment and patient tracking technology. These are supported by an eight bay Pre-Op area and a 7-bay PACU and a Sterile Processing Department.

Master Planning

LANCASTER ORTHOPEDICS

Lancaster, Pennsylvania

Surgical Suite: design of a surgical suite for an independent group of physicians, this project was not located on or associated with the Lancaster General Hospital campus.

MCGOWAN INSTITUTE FOR REGENERATIVE MEDICINE

Pittsburgh, Pennsylvania

New \$10 million two-story laboratory/office building for tissue engineering and artificial organ development, seeking the highest level LEED Rating for green building.

MEADOWLANDS HEALTH CARE CENTER

Washington, Pennsylvania

One-story addition to a head injury rehabilitation and nursing facility

Site improvements to increase parking capacity

Boiler Room Ventilation

Corridor Light Improvements

Emergency Generator

Front Entrance Improvements

Kitchen/Laundry/HVAC

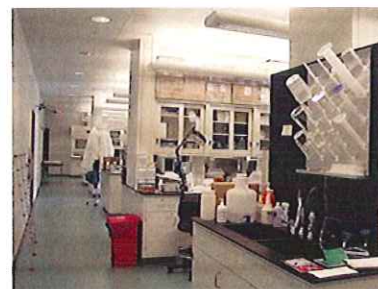
Lounge Modifications

New Nurses' Station Renovations

Psychiatric Addition

MEDICAL COLLEGE OF PENNSYLVANIA AND HAHNEMANN UNIVERSITY, AND THE MEDICAL COLLEGE HOSPITALS

Philadelphia, Pennsylvania





architecture
planning
interior design



Five-Year Master Facilities Plan
Department of Neurobiology Research
18-Bed In-patient Step-Down Cardiology Unit
Central and Satellite Pharmacies
Purchasing Department Consolidation
Parking Garage
Business Medicine
Psychiatric Unit
Mental Health Office



MERCY HOSPITAL OF PITTSBURGH Pittsburgh, Pennsylvania

Cafeteria Renovations: first phase of a multi-phase interior renovation to upgrade finishes in the main food service area of the cafeteria, subsequent phases are planned to encompass modifications to the servery.

Brady Memorial Library Renovation: interior renovation of the hospital's main library to upgrade finishes.

MILLCREEK COMMUNITY HOSPITAL Erie, Pennsylvania

Lobby Interiors for the Lake Erie College of Osteopathic Medicine



MILTON S. HERSHEY MEDICAL CENTER, PENN STATE UNIVERSITY SCHOOL OF MEDICINE Hershey, Pennsylvania

Design and Construction Standards

Research Incubator Building the Hershey Trust engaged IKM Incorporated Architects to prepare a program document, preliminary design concept and conceptual opinion of cost for a new 75,000 square foot incubator research lab facility. The Medical Center intends to occupy approximately fifty percent of the space with the remaining space available for other tenants.



Extramural Research Facility Addition - consists of fifteen (15) animal holding rooms and extension of the clean and dirty corridor system.

MONONGALIA GENERAL HOSPITAL Morgantown, West Virginia

Ambulatory Care Center and Medical Office Building: Full architectural design and engineering services for a new ambulatory care center and medical office building connected to the main hospital via a shared atrium space.

Selected Healthcare Experience



architecture
planning
interior design

Surgery Department Addition and Renovation: The project involved new operating rooms and support, anesthesia storage and expanded pump room, orthopedic operating room and related storage, and the post anesthesia care unit and advanced recovery.

Cardiac Post Anesthesia Care Unit

OAKLAND ORTHOPEDIC ASSOCIATES Pittsburgh, Pennsylvania

Renovation of a former auto dealership and repair garage into a two-story medical office building for a consortium of seven orthopedic surgeons. A garage adjacent to the building provided forty-eight indoor parking spaces. Renovation of a former drug store into the practice's satellite office. Included are two treatment area pods, radiography and cast rooms, exam rooms and administrative spaces. Shell space accommodates future development or additional services.

PUNXSUTAWNEY HOSPITAL Punxsutawney, Pennsylvania

Interior Standards

PUTNAM GENERAL HOSPITAL Hurricane, West Virginia

State-of-the-art Operating Room Addition is West Virginia's first computerized, fully-integrated, minimally invasive operating room.

THE READING HOSPITAL AND MEDICAL CENTER Reading, Pennsylvania

Long Term Acute Care/Rehabilitation Hospital - new \$27 million specialty hospital includes a 40-bed rehabilitation unit and 60-bed long term acute care unit along with core support spaces for administration, dietary, pharmacy, laboratory, outpatient rehab and medical records.

School of Nursing and Allied Health 60,000 square foot new building on the Hospital campus estimated construction cost of \$21.5 million.

RENAISSANCE ORTHOPEDICS Pittsburgh, Pennsylvania

Renovation of the interiors of this private doctor's suite within the Mellon Pavilion at the Western Pennsylvania Hospital; the office consists of three specialized spaces, a laboratory, a clinic and an institute.





architecture
planning
interior design



SHAMOKIN AREA COMMUNITY HOSPITAL

Shamokin, Pennsylvania

Addition to Surgery Department
New Emergency Department
Office/Boardroom Facility

SHARON REGIONAL HEALTH SYSTEM

Sharon, Pennsylvania

Campus Plan/Master Facility Plan.

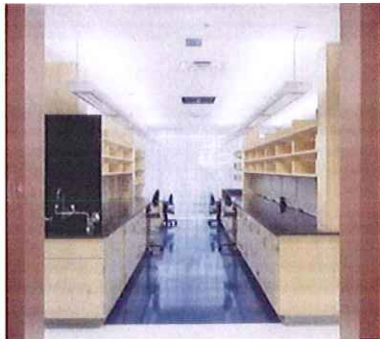
Conversion of existing med-surg unit to a 20-bed adult psychiatric unit.

Conversion of an Outpatient Oncology Suite to a 14-bed adolescent/adult psych. unit.

Inter-departmental renovations (Laboratories, Cath Lab, Emergency Department/Entrance, Exterior Signage, Home Health Unit, Joslin Minor Procedures, Outpatient Rehabilitation Facility, Outpatient Registration, Radiation Therapy and Hematology/Oncology Department, Physical Therapy/Occupational Therapy, Psychiatric Unit).

Interiors Building Standards and Art Selection Assistance

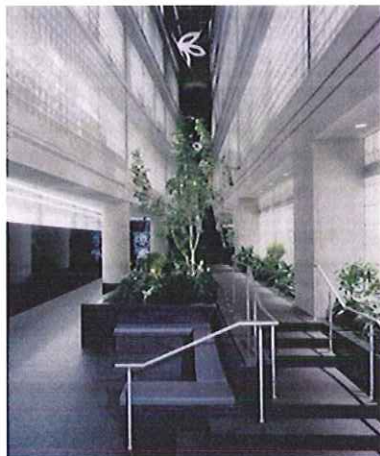
Laboratory Renovation



SLIPPERY ROCK UNIVERSITY OF PENNSYLVANIA, SCHOOL OF PHYSICAL THERAPY

Slippery Rock, Pennsylvania

New, 43,500 square foot, Physical Therapy teaching and research building for one of only three accredited professional (entry level) doctoral programs in the United States the facility includes a vivarium and gross anatomy lab.



SOUTHWOOD PSYCHIATRIC HOSPITAL

Upper St. Clair, Pennsylvania

Psychiatric Hospital for children and adolescents in a secluded country setting. Every effort was made through the design, the plan and the selection of both interior and exterior materials to de-institutionalize the facility.

Eighteen-bed addition to the original hospital.

Hospital addition, including a gymnasium, additional office space, and parking.

ST. CLAIR HOSPITAL

Mt. Lebanon, Pennsylvania

Emergency Department Expansion Doubling the size of the current department the expansion will have major and minor treatment rooms, an

Selected Healthcare Experience



architecture
planning
interior design

enlarged Fast Track area for minor illnesses and injuries, a pediatric treatment area, and a diagnostic area for laboratory specimen collection and medical imaging testing.

SUBURBAN GENERAL HOSPITAL

Bellevue, Pennsylvania

Strategic Facility Plan

5th Floor Medical/Surgical Unit Renovation

Exterior facade addition

Lobby/registration renovations



SUMMA HEALTH SYSTEM

Akron, Ohio

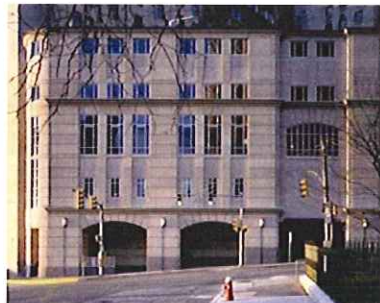
Orthopaedic Center of Excellence - Programming and conceptual design of a new \$90 million specialty hospital. The program calls for approximately 78 private room in-patient beds, 12 operating rooms, six radiology rooms, an MRI and all of the associated support spaces.



UNIVERSITY HOSPITALS OF CLEVELAND

Cleveland, Ohio

Café and servery renovation for the University Hospitals of Cleveland's Mather Pavilion



UNIVERSITY OF PITTSBURGH MEDICAL CENTER / UPMC HEALTH SYSTEM

Pittsburgh, Pennsylvania

Hillman Cancer Center: The \$140 million project consists of a new 355,000 s.f. freestanding building composed of two pavilions. The Research Pavilion contains the research labs and support space and the Ambulatory Center contains non-lab research space, clinical and office functions. The two pavilions will be joined by a skylit atrium and the entire building will be located over an underground parking garage.

Diagnostic and Treatment Center: This 11 story, 152,000 s.f. structure constructed between two existing hospital buildings houses research and treatment facilities, including. Transplant Surgery Suites, Cardiology, Dietary, and the Joint Radiation Oncology Center (JROC) as well as research facilities to support these programs.

University Surgical Associates Office renovations

Department of Surgery Office Renovations





architecture
planning
interior design



Center for Sports Medicine and Rehabilitation, Pain Evaluation and Treatment

Academic offices for the Joint Radiation Oncology Center in Scaife Hall.

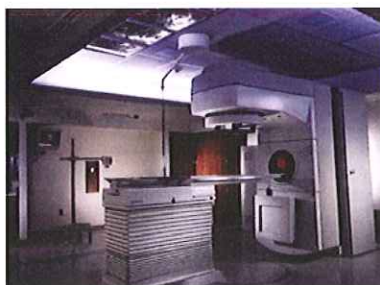
Other renovated or relocated spaces include:

- Admitting
- Alzheimers Research/ Benedum Geriatric Center
- Biomedical Science Tower Interiors
- Breast Care Center
- Central Command Station
- Diabetes Clinic
- EEH/Recovery
- Falk Lobby
- Falk Radiology
- GI Lab Interiors
- Interior Standards
- Lecture Halls
- Lipid Lab and Clinic
- Microbiology Lab
- Montefiore Cafeteria
- Montefiore Lobby
- MRI
- Orthopedics Interiors
- PCI Nursing
- Pharmacy Bank Aid
- Private Rooms
- Surgery Offices
- Tunnel
- Urology Clinic
- VIP Unit
- Wellness Center



UNIVERSITY OF PITTSBURGH CANCER INSTITUTE
Pittsburgh, Pennsylvania

Now a part of the UPMC Health System, IKM designed a regional referral center, the PCI is a treatment and research facility, accommodating 20 patients on an out-patient basis. Oncology patients receive chemotherapy and biological response modifiers. Clinical trials are then conducted with these agents to develop research protocols. Additionally, IKM designed the new space for PCI in Montefiore Hospital.



Selected Healthcare Experience



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UPMC HORIZON - SHENANGO CAMPUS AND GREENVILLE CAMPUS

Shenango, Pennsylvania and Greenville, Pennsylvania

Labor, Delivery, Recovery Renovations

ER Registration

Lobbies

Skilled Nursing Unit

MRI

Arthritis Rheumatoid Center

Cardio-pulmonary unit and laboratory facilities addition

Comprehensive Outpatient Rehabilitative Facility and Wellness Center -

Renovations to a free-standing existing structure

New four-level wing (oncology, obstetrics with delivery/operating rooms, dining/kitchen facilities)

Interior renovations, accommodating building additions and departmental moves.

Portable MRI and Lithotripsy units

Renovation of existing medical/surgical wing to a skilled nursing unit

CT Scanner Unit Replacement

Emergency Department, Pharmacy/Medication Storage, Computer Room Renovations

Code Deficiency Review

Women's Care Center



UPMC SHADYSIDE

Shadyside, Pennsylvania

Master Planning: 25-year, \$100 million Master Plan

As Coordinating Campus Architect for the Hospital, IKM developed the campus building design criteria and guidelines for all work on the campus.

West Wing Addition: Schematic Design for the new eight-story inpatient bed tower with units devoted to Medicine/Surgery, Neurology/Neuro ICU, Surgery, ENT, PCCU/ICU, additional operating rooms and O.R. support areas, clinical laboratories, physical therapy and administrative support functions.

Physicians' Office Building: Built above a new parking garage, the first floor accommodates a conference center (board room, smaller conference room, waiting area and lecture hall) and ambulatory care facilities. The additional six floors above house physicians' offices.

Renovations to the School of Nursing to create space for physicians' offices and hospital administrative personnel.





architecture
planning
interior design



New entrance and concourse to connect the new Physicians' Office Building with the existing hospital complex.

Parking Garage: a new 827-car parking garage provides the air rights for the Physicians' Office Building and an additional Physicians' Office Building planned for the future.



Emergency Department Expansion As part of an on-going relationship with Shadyside Hospital, IKM was commissioned to design the renovation and addition of the Emergency Department. The program had to accommodate approximately 35,000 visits per year and called for twenty-eight exam/treatment rooms including 7 major exam rooms.

The Mary Hillman Jennings Joint Radiation Oncology Center

Renovations of the Bone Marrow Transplant and In-patient Unit, Phlebotomy, Transport, Pharmacy, Executive Management, and Day of Surgery

Other units/spaces which have been renovated or relocated include:

- Admitting
- Anesthesia
- Central Sterile Supply renovations
- Chapel
- Clinical Engineering
- Communication
- Diagnostic Cardiology
- Dialysis
- Dietary Units
- Emergency Power
- Energy Plant Renovations
- Gynecology
- Helipad
- Heritage Physical Therapy
- LDRP
- Lobby
- Medical Records
- Medical Library
- Materials Management and Receiving
- Operating Rooms
- Orthopedics Institute
- Outpatient Registration
- Pharmacy Expansion
- Physicians' Lounge
- Surgery and surgery waiting



Selected Healthcare Experience



architecture
planning
interior design

UPMC SOUTH SIDE

Pittsburgh, Pennsylvania

Phase II Master Plan

Community Replacement Hospital: 255-bed hospital with complete ancillary facilities. The design for The South Side Hospital brought our firm a "Merit Award for Design Excellence" from the Pennsylvania Society of Architects.

"Heart Park" a parklet with a walking course and 14 exercise stations; developed to promote fitness for the Hospital's patients and employees and also the South Side community.

Renovations to former nursing school; an eight-story structure converted to house administrative offices and meet additional Hospital storage requirements.

"Ask-A-Nurse" satellite clinic offering medical advice for walk-in and phone-in patients.

Psychiatric Unit: Conversion of an existing medical-surgical wing to a 22-bed in-patient psychiatric unit.

Outpatient Surgery Suite: Conversion of a medical library, classrooms and ancillary space into a 20-bed out-patient surgery department. Present operatories were utilized for this program.

The Heart Center - Cath Lab and support

Other projects we have designed at The South Side Hospital include:

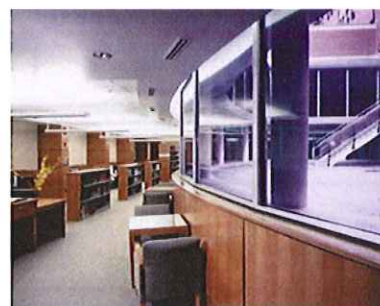
- CT Scan Renovations
- Endocrinology/Proctology Exam Rooms
- ER Signage
- Exterior Signage
- GI Labs
- Medical Offices
- Occupational Therapy Relocation
- Physical Therapy
- Recovery Room Renovations

VA MEDICAL CENTER

VA PITTSBURGH HEALTHCARE SYSTEM (VAPHS)/ VETERANS' ADMINISTRATION

Pittsburgh, Pennsylvania

The new Southwestern Pennsylvania Veterans' Center houses 236





architecture
planning
interior design

veterans in 160 skilled or intermediate nursing care beds in four nursing care units, 44 beds in a dementia unit, 28 domiciliary care beds, and 4 day-care beds.

Canteen Renovation IKM was selected to enlarge and reconfigure the main VA Pittsburgh Canteen at the University Drive location, along with nutrition and food service and other affected services on the Ground floor of the building.

Data Center Consolidation evaluation of five Pittsburgh sites and related equipment and consolidation of all hospital information system servers and associated peripheral hardware

Emergency Care Center renovation of existing dental clinic and emergency care space into a new Emergency Care Center.

VA MEDICAL CENTER (VAMC) CLARKSBURG
Clarksburg, West Virginia

Open Ended Services agreement for smaller renovation projects

VA MEDICAL CENTER (VAMC) LEBANON
Lebanon, Pennsylvania

CT Scanner Installation

WATSON INSTITUTE (formerly D. T. Watson Rehabilitation Hospital)
Sewickley, Pennsylvania

Design of renovations to accommodate an autism program

Master Plan Study to develop programmatic and facilities plan for the Hospital

Physical therapy, occupational therapy and gross motor functions renovations

Renovations of a 37-bed patient unit and unrelated Administrative Area

Speech therapy, outpatient rehabilitation and staff offices renovations

THE WESTERN PENNSYLVANIA HOSPITAL
Pittsburgh, Pennsylvania

Minimally Invasive Surgery Suite (MISS): Renovation of existing operating rooms to support state-of-the-art minimally invasive surgical procedures and equipment using the latest, high-tech robotic surgery methods



Selected Healthcare Experience



architecture
planning
interior design

Ambulatory Surgery Unit Expansion: Renovation of interior spaces to accommodate a pre-op area, waiting reception, a discharge lounge, physician locker rooms and a bridge connection to improve efficiency and manage patient circulation

Conference Center: Infill construction and renovation to house an auditorium and flexible breakout rooms featuring rear projection technology and network wired seating in an acoustically controlled environment. Architectural accents include a glass-enclosed winter-garden that serves as an exhibit hall and for pre-function activities and also connects to an exterior courtyard.

Orthopedic Inpatient Unit: 26-bed unit which utilizes a decentralized nursing model in a unit appointed in a hospitality setting to reflect the 'wellness' aspect of the total joint program. Common spaces are developed to promote the socialization of patients and the benefits of group rehabilitation.

PACS System: IKM was instrumental in the design for the installation of the state-of-the-art Picture Archiving and Communication System (PACS). Completed in conjunction with the radiography department, and one of only a few currently installed throughout the country, this film-less system improves the delivery of patient care by providing convenient access to digitized information to physicians where they need it and when they need it.

Other spaces include:

- Cancer Clinic
- Cath Lab
- Cesarean Section Rooms
- Clinical Laboratory Relocation/Consolidation
- Dental Practice Relocation
- Department of Medicine Office
- Department of Surgical Offices
- Dietary/Food Service/Cafeteria Renovations
- Education and Conference Center
- E.P. Lab
- Family Practice Renovations
- Geriatric Clinic – Vintage
- GME/CME
- Human Resources Department Renovations/Expansion
- Interventional Angiography
- LDR(s)
- New Operating Rooms
- Nuclear Medicine/Ultrasound Unit Relocation
- Nursing Administration
- On Call Rooms
- Outpatient Lab





architecture
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- PACU Relocation
- Parking Garage
- Physicians' Practices Spaces
- Post Partum Unit
- Professional Office Building.
- Psychiatric Unit
- PT/OT Relocation
- Satellite Pharmacy
- School of Respiratory Therapy
- Sub-Acute Unit
- Surgical Locker Rooms

WESTERN PSYCHIATRIC INSTITUTE AND CLINIC

Oakland, Pennsylvania

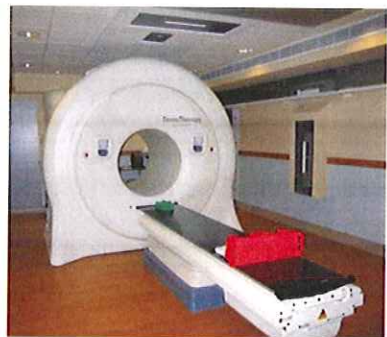
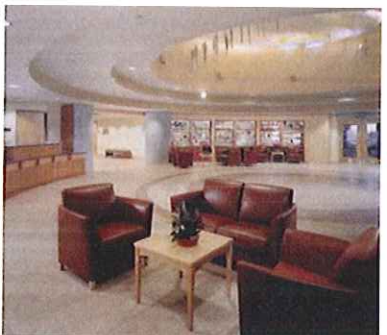
IKM had provided architectural and interior design services to this institution for over 30 years. During that time, we completed drawings for extensive remodeling projects throughout the 17-story existing building as well as designed major additions to the existing facility.

A 240-car **parking garage** which brought our firm a "First Honor Award for Excellence in Architectural Design" from the Pennsylvania Society of Architects.

The Education and Research Center: A 10-story addition to the existing hospital facility with provisions for future expansion.

Renovated spaces within the original building include:

- 200-Seat Auditorium
- 400-Seat Cafeteria/Complete Kitchen
- 90,000 Volume Library
- Chemical Dependency Nursing Adult Emotional Stress Unit
- Audio-Video Recording Studio
- Adolescent Psychiatric Units
- Data Processing Facility
- Gold Coast Nursing Unit
- Lecture Halls and Classrooms
- Main Lobby
- Mechanical/Electrical Systems
- Psychiatric Geriatric Nursing
- Psychiatric Nursing Units
- Radiology Department
- Vertical Transportation
- Therapy Clinics



Selected Healthcare Experience



architecture
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WEST VIRGINIA UNIVERSITY HOSPITALS, RUBY MEMORIAL HOSPITAL

Morgantown, West Virginia

Ruby Memorial Master Facility Plan - master planning services for the Morgantown facilities encompassing Ruby Memorial Hospital, Chestnut Ridge Hospital, The Eye Center, the Physicians Office Center, the Child Development Center and the Rosenbaum Family House covering a total of 522 patient beds and over 1 million square feet of space.

Neonatal Intensive Care Unit

PACU

OR corridor

Cardio-Thoracic Unit

Cardiac Holding

Pediatric Unit

Inpatient Bed Study

Parking Deck Study



WINDBER MEDICAL CENTER

Windber, Pennsylvania

Windber Research Institute: state-of-the-art laboratory addition to breast cancer research center





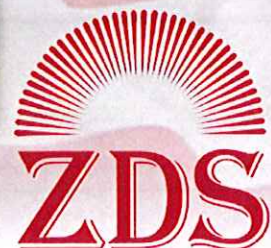
Summersville
Memorial
Hospital



Hopemont
State Hospital



Veterans Affairs
(VA)
Hospital
Administration



Design/Consulting Services

Engineering for Health Care Facilities

ZDS project experience includes over 100 million square feet of facility space.

United Hospital Center

HVAC/Electrical
renovations and
energy savings

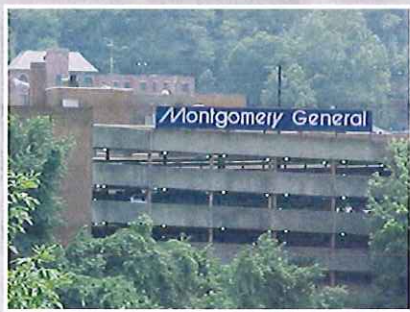


Bluefield Regional Medical Center

HVAC Renovations



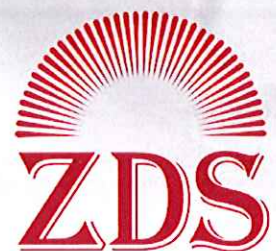
Thomas Memorial Hospital



Montgomery General Hospital



Webster County Memorial Hospital



Design/Consulting Services

Roger Hartung, AIA, NCARB
Principal in Charge



architecture
planning
interior design

Mr. Hartung has over 24 years of architectural experience encompassing all areas of healthcare design, management, administration and production. He is a Principal with the firm. Mr. Hartung has significant experience with large capital projects as well as sophisticated healthcare projects which often involve complex environments and phased construction schedules. In addition, he has completed a variety of projects for corporate, private and public institutions.

As the *principal-in-charge* Mr. Hartung has overall responsibility for the project, ensuring that it is staffed adequately with qualified persons, that the project is going smoothly, that it stays on budget and on schedule and that IKM is being responsive to the client. He oversees all project personnel, including consultants and attends key presentations to the client. He is responsible for all contractual arrangements with the client and consultants.

Mr. Hartung has experience directly with hospital inpatient unit design. His experience includes:

Erie County Medical Center Orthopaedic Center of Excellence (2010) – Principal in Charge for an initial program study for the new "Bone Center" which includes inpatient nursing units, perioperative services, fracture clinic, clinical support spaces, and public amenities.

Erie County Medical Center Corporation Renal Services – Principal in Charge for the renovation and addition to the ECMCC campus to accommodate a new Center of Excellence for Kidney Care and Transplantation the project includes an outpatient clinic, vascular access center, **24-bed inpatient nursing unit**, inpatient acute dialysis center, and free standing outpatient chronic hemodialysis center.

Erie County Medical Center Master Plan – Principal-in-Charge to study how best to add 5 major components to an existing 550 inpatient-bed hospital campus. The study recommended an addition of a 210,000 sf children's hospital, addition of an 180,000 sf obstetrics hospital; expansion of cardiac services adding 81,000 sf and renovating 17,000 sf; and a new medical office building of 145,000 sf.

Erie County Medical Center Heart Hospital – Principal in Charge for the planning and schematic design of a \$60 million addition and renovations to this Buffalo, NY hospital campus to expand cardiac services. It includes four new open heart operating rooms, new cath lab, **50 new cardiovascular ICU rooms**, and **8 new observation rooms**.

WPH Forbes Regional Campus Growth and Expansion Plan – Principal in Charge/Medical Planner for the implementation of IKM's 60,000 SF master plan that includes surgery department expansion with open heart ORs that double as minimally invasive ORs, **8-bed**



architecture
planning
interior design

Intensive Care unit, Cath Lab Suite with 2 procedure rooms and relocation of the medical records department, GI Lab, **16-bed Obstetrics unit**, and Psychiatric Nursing unit.

WPH Forbes Regional Campus Orthopedic Inpatient Unit – Principal in Charge for \$2.5 million renovation encompassing 18,000 square feet; to include **42 orthopedic inpatient beds** and physical and occupational therapy spaces.

WPH Forbes Regional Campus Intensive Care Unit with Dialysis – Principal in Charge for the design to create an Intensive Care Unit (ICU). Patient rooms are designed as multi-acuity rooms equipped with a ventilator, dialysis connection, medical gasses, emergency power, an examination light, a CD player, wireless Internet access and a private toilet shower room.

WPH Forbes Regional Acute Care Rehabilitation – Principal in charge of renovation of existing hospital space to accommodate a new **21-bed inpatient unit**. The project also included physical, occupational and speech therapies, a communal patient dining area, daily living kitchen and bedroom designed for patients to re-learn tasks of daily living.

WPH Forbes Regional Obstetrics Inpatient Unit Renovation – Principal in charge for the design of a new Obstetrics Department that merged Labor and Delivery with Postpartum/Nursery. The unit contains **eleven LDRP rooms**, **four private postpartum rooms**, and a cesarean section room with clean corridor area, as well as a newborn nursery, Level 2 Nursery, and Level 2 Isolation Nursery.

UPMC Horizon Greenville Campus Ambulatory Surgery Addition

– Project Manager for the \$2.3 million addition of an ambulatory surgery unit for minor procedures to the Hospital's existing surgery department; it comprised three new special procedures rooms: cystoscopy, endoscopy, instrument processing and expansion of support spaces including pre-op/post-op.

Hillman Cancer Center of the University of Pittsburgh Cancer Institute

– Project Manager for the new 355,000 S.F. building composed of two pavilions, one, the Research Laboratories and the other, the Ambulatory Center containing clinical space and office support functions. The 154,000 SF of research space is designed with a 73% net to gross efficiency.

Mr. Hartung graduated from Carnegie Mellon University in 1986 with a Bachelor in Architecture degree. He is a registered architect in Illinois, New York, Pennsylvania, Tennessee, Virginia and **West Virginia** and holds a certificate from the National Council of Architectural Registration Boards (NCARB). He is a member of the American Institute of Architects, Pittsburgh & west Virginia Chapters.

Joseph Obritz, Assoc. AIA
Project Manager



architecture
planning
interior design

Mr. Obritz joined IKM in 2000 with a background in commercial projects both renovation and new construction. He has worked with the firm on a variety of institutional projects toward completion of his IDP professional development requirements leading to his architectural registration exam.

As the **project manager**, Mr. Obritz is primarily responsible for the detailed execution of the project's design and documentation. He represents the firm in all detailed communications with the client, consultants and contractors. He manages the architectural support staff, production team and the consultants to ensure the project's completion. He communicates regularly with the principal-in-charge regarding project status, coordinates with the specifications writer and represents the firm during construction administration. He is a member of IKM's in-house design review committee providing valuable design input on all of the firm's projects. Since joining the firm, his experience at IKM has encompassed several healthcare related projects, including:

St. Clair Hospital Emergency Department Addition - Project manager and project designer for the \$13.5 million addition to St. Clair Hospital that will double the size of the existing Emergency Department and accommodate up to 80,000 visits per year. The expansion increases capacity to 45 treatment rooms with cardiac monitoring. Six are equipped with pediatric-sized equipment and three are designated for behavioral and mental health treatment. There are also six fast track rooms for minor illnesses and injuries.

VA Medical Center Erie, Ambulatory Surgery Addition - Project Manager/Designer for the 20,000 square foot renovation of existing hospital space and new building addition to accommodate the ambulatory surgery department. The design considered the functional layout of the primary space clusters: ORs, Pre/Post Op, PACU, Endoscopy/procedure, and staff support. These were organized in a pattern to promote efficient flow of patients, staff and material.

West Penn Hospital Forbes Regional Campus CT Services - Project manager for the design of approximately 3,000 square feet to relocate CT services to an area within the Imaging Department adjacent to the Emergency Department. The project currently calls for two CT rooms with the possible expansion to three rooms and a central control room. The move will accommodate the installation of a new 64-slice unit.

Lancaster General Hospital Cardiac Elevator Expansion - Project manager and project designer selected to design an addition to the existing Duke Street Campus Hospital to enhance their cardiovascular service line facilities. The project included an oversized elevator to transport Post Surgical patients to the Intensive Care Unit within the facility supporting vertical the movement of a medical team and equipment with ease.



architecture
planning
interior design

UPMC Magee Women's Hospital Vein Center – Project coordinator for the design of the renovation of existing hospital space to accommodate a new 4,000 square foot vein treatment center. The spaces included in the program are procedure room, vascular testing room, exam rooms, changing room, physician's office space, waiting area, business office, and appropriate support space.

UPMC Mercy Hospital Cardio Vascular ICU Renovation – Project coordinator for the renovation and expansion of a portion of the existing ICU to increase the bed compliment by four (4) beds to meet the rising acuity levels of the patient population. The project on the third floor of the Mercy Campus utilizes the adjacent vacant space formerly used as a microbiology lab for the expansion.

UPMC Hillman Cancer Center of the University of Pittsburgh Cancer Institute – Construction documentation for the project consisting of a new 355,000 s.f. building on a 2-1/2 acre site. The building is composed of two pavilions, one, the Research Laboratories and the other, the Ambulatory Center. The 154,000 sf research space was designed with 73% net to gross efficiency, contains a 10,000 SF animal quarters facility and a Level 3 Biosafety (BSL3) containment lab.

Penn State University, Hershey Medical Center Extramural Research Facility – Project coordinator for the Construction documentation and construction administration of an addition to house and conduct genetic research on rodents, primarily transgenic mice. With clean/dirty corridor system and dedicated HVAC system, attached to the primary animal research facility serving the College of Medicine of Penn State University.

University of Pittsburgh, McGowan Institute for Regenerative Medicine – Project coordinator for the construction documentation of this 45,000 s.f. research building awarded the highest level **LEED^(R) GOLD rating**, the second lab building on record with the US Green Building Council.

Mr. Obritz is graduated from the University of Pittsburgh with a Bachelor of Arts in Architectural Studies and from Virginia Polytechnic Institute & State University with a Masters in Architecture. While at VPI, he received an invitation to join Tau Sigma Delta, an honorary fraternity of the Allied Arts & Architecture.

Mr. Obritz exhibited his drawings by invitation at VPI School of Architecture. He received second prize in the 1990 New York City AIA Competition as a member of a 4-person team. He presented the lecture "The Architecture and Influence of Charles Rennie Mackintosh" to the VPI School of Architecture. Mr. Obritz is an Associate Member of the American Institute of Architects, Pittsburgh Chapter.

Rebecca Sciallo

Interior Designer



architecture
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interior design

Ms. Sciallo joined IKM as an interior designer in 2007. She has 5 years of professional practice in interior design. During her time with the firm, she has established herself as an instrumental design-team member in all aspects of the interiors department as well as within the firm.

As the *interior designer* on the team, Ms. Sciallo provides drafting, space planning, furniture and finish selection and specification. Before coming to IKM Rebecca worked specifying commercial systems furniture for a local dealership, and also worked in Corporate Real Estate as a design coordinator for universities nationwide including The Art Institutes, Argosy University, South University, and Brown Mackie College.

Since joining IKM, Rebecca has worked on a variety of projects including education, corporate and healthcare. Some of her relevant healthcare project experience includes:

Crystal Clinic/Summa Orthopaedic Center - Interior Designer for the design of the Summa Orthopaedic Center with an approximate cost of \$90 million dollars and square footage of approx. 140,000 sq. ft. Space consists of new operating rooms, patient units, clinic, diagnostic and treatment areas, as well a highly contemporary ground floor lobby/café area.

UPMC Various Projects – Project Interior Designer for various interior renovations at UPMC facilities, Mercy, Shadyside, and Montefiore totaling approximately 8,000-10,000 square feet; projects included updates to interior finish standards, hall corridor floor patterns, nuclear camera space, nurse unit, office space, OR Pre-Op.

UPMC Mercy Rehab Services - Interior Designer for the renovation of the sixth and seventh floors of E & F Buildings in support of a planned Physical Medicine and Rehabilitation Center of Excellence initiative at UPMC Mercy Hospital. The design required creating a new public circulation path to divert unrelated pedestrian traffic around the new unit. Design required implementation of UPMC's recently developed finish standards to the Mercy units. Renovation cost approx. \$1.4 million.

UPMC Mercy CVICU - Interior Designer for the expansion of the ICU on the third floor of the Mercy Campus. This work included renovation of a portion of the existing ICU and the adjacent vacant space formerly used as a microbiology lab. The goal was to increase the bed compliment by four (4) beds. Design services included matching the new work to the existing finishes allowing for a smooth transition from the existing space to the new work.



architecture
planning
interior design

St. Clair Hospital Broughton Road MRI – Project Interior Designer for the design of upgrades to finishes, casework, furniture and artwork in the waiting room and dressing area of an off-site MRI suite.

St Clair Hospital Interior Finish Standards – Project Interior Designer selected to develop the interior design standard guidelines for use with new renovations and updates throughout their facilities.

VA Pittsburgh Healthcare System ICU Addition – Project Interior Designer to develop the finish scheme options, floor patterns and final finishes as integral part of the design team for a 24,000 square foot addition on the roof of a wing of the existing VA hospital. The project includes 23-single patient rooms including four infectious isolation rooms.

VA Erie Medical Center Ambulatory Surgery – Project Interior Designer to develop the interior floor finish renderings and assist with preparation of construction documents for the 20,000 square foot renovation of existing hospital space and new building addition to accommodate the ambulatory surgery department. The design considered the functional layout of the primary space clusters: ORs, Pre/Post Op, PACU, Endoscopy/procedure, and staff support. These were organized in a pattern to promote efficient flow of patients, staff and material.

West Virginia University Hospitals Chestnut Ridge Expansion – Project Interior Designer for the renovation and addition of 5,000 square feet of space to an existing medical office building including a new gymnasium.

WPAON New Castle – Project Interior Designer for the interior renovation of 7,550 square foot vacant medical office building suite to create a satellite oncology treatment facility, the new space provides 14 patient chairs in the Infusion Room positioned around a central Nurse Station and separated by privacy curtains.

WPAON Jefferson Hills – Project Interior Designer for the design for the new oncology outpatient clinic at Jefferson Hospital provides 9 patient chairs in the Infusion Room that are positioned around a central Nurse Station. A warm pallet, natural materials and sound masking strategies serve to create a comforting, peaceful environment for patients.

Ms. Sciallo holds a Bachelor of Science in Interior Design from the Art Institute of Pittsburgh.



Allegheny Design Services

Structural & MEP Engineering

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Fax: (304)599-0772

E-Mail: Dave@AlleghenyDesign.com

Web: www.AlleghenyDesign.com

David R. Simpson, P.E., SECB, MBA
President

Education:

West Virginia Institute of Technology
B.S. Civil Engineering

West Virginia University
Masters Business Administration

West Virginia State College
Architectural Technology

Professional Registrations:

Year first registered: 1984
Structural Engineering Certification Board
West Virginia
Pennsylvania
Maryland
Virginia
District of Columbia
South Carolina
Ohio
National Council of Examiners for Engineering and Surveying

Professional Memberships:

American Society of Civil Engineers
Structural Engineering Institute, Charter Member
American Concrete Institute
American Institute of Architects – West Virginia Chapter
American Institute of Steel Construction, Inc.
American Iron and Steel Institute Member

Continuing Education:

2005 AISC Specification for Structural Steel Buildings – September 27, 2006 – Pittsburgh, PA
ASCE Testifying Skills for Engineers – February 16, 2007 – Orlando, FL
Peter Vallas Associates, Inc. "Fire Investigation Certification" – July 16, 2010 – Ft. Lauderdale, FL

Professional Experience:

Responsible for project management and design at Allegheny Design Services. Experience includes over 30 years in structural design and project management for industrial, commercial, institutional, and nuclear/chemical facilities utilizing steel, concrete, masonry, and wood. Past accomplishments include design and construction administration of health care facilities, hotels, schools, shopping centers, aircraft hangars, numerous retail facilities, and numerous forensic engineering assignments. Experience has been obtained from the following assignments:

Experience Record:

Allegheny Design Services, LLC, President,	May 2002 to Present
R.M. Gensert and Associates, Vice President,	August 1998 to May 2002
West Virginia University, Assoc. Director Construction	August 1988 to August 1998
Simpson Engineering, Owner	August 1988 to August 1998
CECO Buildings Division, Senior Structural Engineer	April 1985 to August 1988
Rockwell International, Facility Structural Engineer	March 1982 to April 1985
Bellard Ladner & Assoc., Staff Structural Engineer	Sept. 1981 to March 1982
PPG Industries, Facility Structural Engineer	January 1980 to Sept. 1981

Additional Professional Experience:

Experience encompasses design, project management, and construction administration for reinforced concrete, structural steel, precast concrete, masonry, and wood structures.

Project experience includes:

Fairmont Senior High School, Fairmont, WV
Belmont Community Center, St. Clairsville, OH
Monongalia General Hospital Operating Room Addition, Morgantown, WV
Chestnut Ridge Church, Morgantown, WV
Morgantown Event and Conference Center, Morgantown, WV
Allegheny Energy Transmission Center, Fairmont WV
West Virginia University Business and Economics Building, Morgantown, WV
West Virginia University High Density Book Storage Facility, Morgantown, WV
West Virginia University Life Sciences Building, Morgantown, WV
West Virginia University Student Recreation Center, Morgantown, WV
West Virginia University Wise Library Addition, Morgantown, WV
West Virginia University White Hall Computer Center, Morgantown, WV
UPMC Hillman Cancer Center, Pittsburgh, PA
Carnegie Museum of Natural History Addition, Pittsburgh, PA
Cultural Trust District Parking Garage, Pittsburgh, PA
Delaware Valley Veterans' Home, Philadelphia, PA
Fairmont State University Parking Garage, Fairmont, WV
First Avenue Parking Garage, Pittsburgh, PA
Hillman Cancer Center (UPMC), Pittsburgh, PA
New Enterprise Precast Corporate Headquarters, New Enterprise, PA
Respironics Corporate Office Facility, Pittsburgh, PA
International Brotherhood of Electrical Workers Headquarters Training Center, Pittsburgh, PA
Laurel Highlands Middle School Addition, Uniontown, PA
Trinity High School, Morgantown, WV
Mylan Pharmaceuticals Parking Garage, Morgantown, WV
Phipps Conservatory Addition, Pittsburgh, PA
Radisson Hotel and Conference Center, Morgantown, WV
Western Pennsylvania School for Blind Children, Pittsburgh, PA
In-Situ Vitrification Nuclear Waste Encapsulation Project, Richland, WA
Dominion Transmission Office Building, Clarksburg, WV
Multiple structural evaluations and expert witness for structural damage due to subsurface mining
subsidence, floods, ice, wind and construction errors
Over 400 low-rise metal building projects from Maine to South Carolina, including warehouses,
aircraft hangar facilities, shopping centers, industrial facilities, and office facilities.

Todd (Ted) A. Zachwieja
PE, C.E.M., LEED AP**Chief Executive Officer**
Principal-in-Charge M/E/P Design

Todd has more than 30 years of experience in the design, construction management, and specifications for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical, and lighting, as well as indoor air quality analysis and building system commissioning for educational, commercial, industrial and health care facilities. His specialties include mechanical engineering, HVAC systems master planning, conceptual design, energy conservation program development, commissioning and IAQ analysis relating to HVAC systems. He has extensive experience in industrial, commercial, hospitals and educational design.

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

GOVERNMENT AND COMMERCIAL

- Bank One – WV
- Bayer Material Science
- Calvert County Aquatic Center, MD
- Culture Center HVAC renovations
- General Motors Corporation of North America Re-commissioning Program
- Kanawha County Commission – 120,000 sf additions/renovations for the Judicial Annex/Kanawha County Courthouse – Charleston
- Kohl's
- Laidley Towers – Charleston
- Mercer County Courthouse Annex – Princeton
- Olin Corporation
- Phillip Morris USA
- Rhone-Poulenc
- Santa Anna Federal Building, CA
- State of WV Capitol Complex Central Heating Plant and Renovations
- Sears
- Saint Patrick Church Renovations
- Sacred Heart Pavilion
- Toyota Motor Manufacturer, WV Inc.
- Union Carbide/DOW
- United Center – Charleston
- Walker Machinery
- West Virginia Air National Guard
- West Virginia Army National Guard
- West Virginia Department of Transportation/DOH
- West Virginia Division of Protective Services
- West Virginia Higher Education Authority
- West Virginia General Services Division
- West Virginia Parkways Authority
- West Virginia Public Service Commission Headquarters
- West Virginia State Capitol Complex renovations
- Yeager Airport

Todd also designed one of the largest geothermal heat pump applications in the mid-Atlantic region, and commissioned HVAC systems and mechanical engineering at many General Motors' facilities in North America.

**EDUCATION**

Bachelor of Science in Mechanical Engineering from West Virginia Institute of Technology in 1982

Masters of Science in Engineering Management from the University of West Virginia College of Graduate Studies in 1989

REGISTRATIONS

West Virginia, No. 10,127

Certified Energy Manager (C.E.M.),
National Certification

LEED® Accredited Professional,
National Certification through
USGBC

Georgia, No. 18253

Kentucky, No. PE-17961

North Carolina, No. PE-017445

Ohio, No. E-53587

Pennsylvania, No. PE-040929-R

South Carolina, No. 25985

Virginia, No. 0402 025427

Todd (Ted) A. Zachwieja
(Continued)**HEALTH CARE**

- Bluefield Regional Medical Center
- Cabell Huntington Hospital
- Charleston Area Medical Center - millions in renovation and new construction design, including commissioning of Charleston Area Medical Center's \$41 million Surgery Replacement Center
- Charleston Area Medical Center General Division
- Charleston Area Medical Center Women & Children's Hospital
- Charleston Surgical Center
- Family Practice Center
- Jackie Withrow Hospital
- John Manchin Sr. Health Care
- Hometown Healthcare Center
- Hopemont Hospital
- Lakin Hospital
- Lewistown Outpatient Surgical Facility, PA
- Mercy Medical Center
- Mildred Mitchell-Bateman Hospital
- Monongalia General Hospital
- Montgomery General Hospital
- St. Joseph's Hospital
- St. Mary's Hospital
- Summersville Memorial Hospital
- Surgicare Center
- Thomas Memorial Hospital
- United Hospital Center
- VA Hospital - Clarksburg
- VA Hospital - Huntington
- Wayne Memorial Hospital
- Webster Memorial Hospital
- Welch Community Hospital
- William R. Sharpe Jr. Hospital

EDUCATIONALColleges and Universities

- Alderson Broadus College
- Bluefield State College
- Concord University
- Fairmont State College
- Harvard University
- Marshall University
- Ohio University's Athens Campus
- Ohio University's Chillicothe campuses
- Southern West Virginia Community & Technical College
- University of California-Davis
- University of Charleston
- Washington & Lee University
- WVU Institute of Technology
- West Virginia State University
- West Virginia University
- West Virginia Wesleyan College

Todd was recognized nationally for his work with Ohio University in development of multiple performance contracting programs that are anticipated to save \$2.5 million annually in energy and operating costs. He has been involved in 100's of higher education facilities.

Schools

M/E/P design for schools in the following West Virginia counties include Calhoun, Clay, Grant, Greenbrier, Hardy, Harrison, Jackson, Kanawha, Lewis, Logan, Marion, McDowell, Mercer, Mingo, Monroe, Ohio, Pocahontas, Putnam, Raleigh, Randolph, Ritchie, Summers, Taylor, Tucker, Upshur, Webster, and Wyoming.

Some of Todd's project experience includes the development and design of a pilot geothermal heat pump HVAC with variable speed pumping system at Webster County High School, which reduced electric bills by more than 40% while meeting IAQ requirements. He has been involved in 100's of school facilities.

PROFESSIONAL AND COMMUNITY AFFILIATIONS

Charter member Mountaineer Chapter of American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

Served as ASHRAE's Energy and Technical Affairs Chairman for six years

Recognized by the International Who's Who of Professionals

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

Recognized nationally in 2007 as a "Legend in Energy"

Recognized nationally in 2008 as a "Charter Legend in Energy"

Charter life member of the Association of Energy Engineers

Professional Affiliate Member of the American Institute of Architecture

Member of the American Association of Hospital Engineers

Member of the National Society of Professional Engineers

Member of the National Society of Plumbing Engineers

Member of the International Code Council

Contributing editor and served on the Editorial Review Panel for "The Handbook of Building Management and Indoor Air Quality," "Ventilation for a Quality Dining Experience," INvironment Professional, Power Prescriptions and other publications and articles dealing with Indoor Air Quality (IAQ) and MEP engineering systems

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

James E. Watters

**Project Manager
Production Manager**

Jim has over 35 years experience in design and implementation of HVAC, plumbing and electrical systems including nine years in the construction industry. He has a comprehensive knowledge of construction documents, contracts, and development of cost estimates, budgets and schedules. Jim's strengths reside in his ability to manage projects and people in an organized and cost-effective manner. Jim has been involved with the design and production of mechanical and electrical drawings including HVAC, plumbing, fire protection, lighting, electrical power and specialized systems. He has worked with and managed engineers in projects for health care, educational and commercial buildings in the states of West Virginia, Ohio, Kentucky, Virginia, Georgia, New York, Arizona, Illinois and Massachusetts. He has extensive experience in energy savings' programs for HVAC, plumbing and electrical systems in hospitals, state and government office buildings, school systems, and manufacturing facilities, as well as managing performance contracts for the state of Georgia totaling \$10,000,000 in construction costs on various projects.

Through the years, Jim has researched and implemented into practice International Building Codes, NFPA Codes, National Electrical Codes, Life Safety Codes, IES standards, AIA Guidelines for Design and Construction, and the evolving ADA standards. Some of Jim's HVAC, plumbing, fire protection and electrical project experience includes the following:

GOVERNMENT AND COMMERCIAL

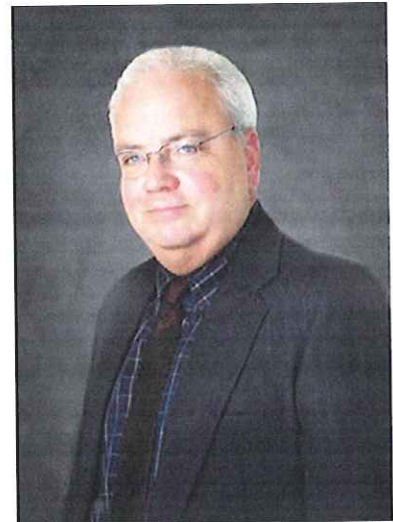
- Boyd County, Kentucky Judicial Center
- Fenway Park in Boston - Lightning protection and grounding study
- Kanawha County Commission Judicial Annex Renovations
- Tucker County Board Office Boiler Retrofit
- VA Hospital, Huntington
- West Virginia Department of Military Affairs and Public Safety Maintenance Facility in Eleanor
- West Virginia Department of Transportation Burnsville Rest Area and domestic water pumping station
- West Virginia Division of Culture and History Fire Alarm/Sprinkler upgrades

EDUCATIONAL

- Elkins Middle School HVAC and electrical renovations
- Marshall University Student Housing in Huntington
- New Jaeger/Panther Elementary School
- Paul Blazer High School in Ashland
- Pleasant Hill Elementary School renovations in Calhoun County
- Ritchie County Middle/High School

HEALTH CARE

- Charleston Area Medical Center Memorial Division in Charleston
- Charleston Area Medical Center General Division in Charleston
- Charleston Area Medical Center Women's and Children's Hospital in Charleston
- Kings Daughters Medical Center in Ashland
- St. Mary's Medical Center in Huntington
- West Virginia Department of Health and Human Resources:
 - Jackie Withrow Hospital, Beckley
 - Hopemont State Hospital, Terra Alta
 - John Manchin, Sr. Health Care Center, Fairmont
 - Lakin State Hospital, West Columbia
 - Mildred Mitchell-Bateman Hospital, Huntington
 - Welch Community Hospital, Welch

**PROFESSIONAL AND
COMMUNITY AFFILIATIONS**

Member of the National Fire Protection Association (NFPA)

Member of the Health Care Section of the NFPA

Member of the Illuminating Engineering Society (IES)

Past member of the Institute of Electrical Engineers (IEEE)

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

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

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

Mark is an information systems and technology specialist and provides networking solutions and Windows based programming system solutions. He specializes in electrical power, security, fire alarm, lighting, plumbing, HVAC piping, and fire protection. Some of Mark's experience includes:

EDUCATIONAL

- Bluefield High School/Performing Arts Center
- Clay Elementary
- Concord University Technology Center
- Elkins Middle School
- H.J. Kaiser Elementary School
- James Monroe High School
- Ohio University Bennett Hall mechanical and electrical renovations
- Park Middle School
- Ravenswood High School
- Ritchie Middle/High School
- Tucker County High/Career Center
- Webster Springs Elementary geothermal heat pump system
- Winfield High HVAC/Electrical renovations
- Pocahontas County High School renovations/Science Center additions
- New McDowell County Southside K-8 School
- Woodrow Wilson High HVAC/electrical renovations

HEALTH CARE

- Hopemont State Hospital fire alarm renovations
- Charleston Area Medical Center
- United Hospital Wound Center

COMMERCIAL

- Cass Railroad Clubhouse renovations
- DOT Rest Area and Welcome Center prototypes for the WV Department of Transportation
- 4-H Camp Muffy Training/Dining facility
- Hardy County Daycare facility
- Jackson County Courthouse Annex
- Kanawha County Judicial Annex
- Mason County Courthouse
- New Mercer County Courthouse Annex
- Multiple branch bank facilities
- Camp Dawson Barracks security renovations
- Award winning Webster County IMC office facilities
- Pendleton County Courthouse additions/renovations
- New Webster County multi-tenant building
- West Virginia Capitol Complex performance contracting HVAC retrofits
- West Virginia Capitol Complex master planning for security/fire alarm/life safety systems

EDUCATION

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

REGISTRATION

Professional Engineer, West Virginia, No. 17286

James W. Lowry, P.E.

HVAC, Plumbing and Fire Protection Engineer

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

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

Some of James' project experience includes the following:

EDUCATIONAL

- Concord University Technology Center
- Davis Thomas Elementary/Middle School
- Eastern Greenbrier Middle School addition
- Elkins Middle School HVAC/electrical renovations
- Glade Elementary/Middle School renovations
- Greenbrier West High School additions/renovations
- Harvard University
- Jaeger/Panther Elementary School
- Independence Middle School
- James Monroe High School HVAC renovations
- Man/Central Elementary addition
- Marshall University
- New McDowell County Southside K-8 School
- Park Middle School HVAC renovations
- Pleasant Hill Elementary renovations
- Ritchie County Middle/High School HVAC/plumbing renovations
- Shady Spring Elementary School
- Smithville Elementary School additions/renovations
- South Charleston High School
- Tucker County High/Career Center HVAC renovations
- West Virginia University Institute of Technology – Engineering Building Evaluation
- Woodrow Wilson High School HVAC/electrical renovations

INDUSTRIAL

- Bayer Material Science
- West Virginia Higher Education Policy Commission (WVHEPC) South Charleston Tech Center – Campus Comprehensive Infrastructure Evaluation



EDUCATION

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

REGISTRATIONS

West Virginia State Board of Registration for Professional Engineers

Professional Engineer West Virginia No. 18948

PROFESSIONAL AFFILIATIONS

American Society of Mechanical Engineers

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

James W. Lowry, P.E.

(Continued)

Project Experience (Continued)**COMMERCIAL**

- 4-H Camp Muffly Training/Dining facility
- Burnsville Rest Areas
- Cass Railroad Clubhouse renovations
- Department of Transportation Rest Area prototype
- Department of Transportation Welcome Center prototype
- Hardy County Daycare Center
- I-70 Welcome Center
- Jackson County Courthouse Annex
- Kanawha County Judicial Annex
- Mason County Courthouse
- Meadowbrook Rest Area
- Morgantown Welcome Center
- Multiple branch banking facilities
- Pendleton County Courthouse additions/renovations
- Point Pleasant River Museum addition
- Tucker County Courthouse renovations
- Webster County Multi-tenant build-out
- West Union Bank Award Winning new facility
- West Virginia Air National Guard – Commissioning for \$43 million maintenance and fuel cell hangars
- West Virginia Capitol Complex Performance Contracting HVAC Retrofits and Master Planning for Security/Fire Alarm/Life Safety systems
- White Sulphur Springs Rest Area

HEALTH CARE

- Charleston Area Medical Center (Wound Center)
- Charleston Surgical Center
- VA Hospital, Huntington - steam replacement, water line replacement and CT Scan renovations
- West Virginia Department of Health and Human Resources:
 - Jackie Withrow Hospital, Beckley
 - Hopemont State Hospital, Terra Alta
 - John Manchin, Sr. Health Care Center, Fairmont
 - Lakin State Hospital, West Columbia
 - Mildred Mitchell-Bateman Hospital, Huntington
 - Welch Community Hospital, Welch
 - William R. Sharpe, Jr. Hospital, Weston

Jennings L. Davis II, P.E., CIE**Mechanical Engineer**

Jennings has more than 20 years of experience in the design, project management and construction of heating, ventilating and air conditioning (HVAC), plumbing, electrical and specialized systems for healthcare, institutional and commercial facilities. His professional experience includes 11 years as an Owner's Representative at West Virginia University (WVU) in the positions of Staff Engineer and Construction Project Manager, 5.5 years as Mechanical Engineer for the West Virginia Department of Education (WVDE), and six years as a Project Engineer with a design and consulting engineering firm.

During his employment with WVU, Jennings was responsible for management of major repair and capital construction projects designed by outside Architectural and Engineering firms with budgets ranging from \$50,000 to \$37,000,000, as well as the design of smaller in-house projects ranging from \$10,000 to \$500,000. While working for the WVDE, he was responsible for quality control of design documents for various construction projects; troubleshooting maintenance for HVAC controls and for Indoor Air Quality (IAQ); recommissioning of HVAC systems to original design parameters; recommendations for HVAC operational and energy savings procedures; and training of maintenance personnel. He investigated facilities concentrating primarily on HVAC operation and occupant safety. Tasks included IAQ measurements such as temperature, humidity and carbon dioxide; HVAC equipment visual inspection; life safety assessment; and building component checks.

As a Project Engineer, Jennings specializes in developing scope, budget and design parameters; establishing program requirements through interaction with Owners and other Team members; design reviews; budget analysis and control; schedule control; complete design oversight and task assignment; and project closeout. Some of the projects he has been involved with include numerous renovation projects at several VA Medical Centers including multiple radiology room/suite installations and renovations, MRI's, X-ray and CT Scanners, Emergency Department renovations, numerous hospital out-patient treatment areas and specialty clinic renovations, a new \$4.4 million Hospice facility at the VA Medical Center in Coatesville, Pennsylvania, and a new \$5 million Medical Office Building for Somerset Hospital in Somerset, Pennsylvania.

Other projects include a \$37 million addition and renovation to WVU's Wise Library, a \$2.1 million chiller replacement for WVU's Engineering Sciences Building, a new primary 23kV power feed to the existing sub-station for the WVU Coliseum, engineering design for a hydrogenation reactor laboratory for WVU's Engineering Research Building, an \$8 million HVAC and sprinkler renovation for WVU's Armstrong Hall and HVAC design for transmitter station for the West Virginia Public Broadcasting Station.

**EDUCATION**

BS in Mechanical Engineering from
West Virginia University

REGISTRATIONS

Professional Engineer West
Virginia No. 15060

Professional Engineer
Pennsylvania No. PE062186

Professional Engineer Virginia No.
040028

PROFESSIONAL AFFILIATIONS

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

Jennings L. Davis, P.E., CIE**(Continued)**

A more complete list of Jennings' health care clients includes the following:

HEALTH CARE

- Children's National Medical Center (CNMC) New Horizons Office Renovations, 2nd Floor Vending Area Renovations, Quarantine Infection Control System Modifications, Pulmonary Renovations and Pharmacy Renovations
- Heritage Valley Health Systems (HVHS) TMC (The Medical Center) and Sewickley Valley Hospital (SVH) Radiology Reading Room, Cafeteria Renovations, Outpatient Clinic and ED Renovations
- HVHS/Moon Imaging X-Ray Relocation
- HVHS/TMC Lab HVAC Corrections
- Indiana (Pennsylvania) Regional Medical Center (IRMC), Computer Room 2 A/C
- Mount Nittany Medical Center (MNMHC) commissioning for East Wing addition, ED renovations, Central Utility Plant upgrades, Special Services/Computer Services Building
- Shepherd University Ikenberry Hall HVAC renovation
- Somerset Hospital ADL Suite Fit-out, Medical Office Building, Cath Lab Renovation, CT Replacement, X-Ray Replacement
- VA Clarksburg 4th Floor renovations (Psychiatric Suite)
- VA Coatesville New Hospice
- VA Huntington Mental Health-Psychiatric Residential Rehabilitation Treatment Program (MH PR RTP)
- VA Lebanon Behavioral Health Building
- VA Philadelphia Canteen Renovations, Dental Lab Renovations, ED and Patient Processing Renovations, Home Health Renovations, Medical Records Renovations, MRI Renovations, CT Scan Renovations, Angio Suite Renovations, Specialty Clinic Renovations
- West Virginia Air National Guard (WVANG) Commissioning Hangar
- West Virginia Department of Health and Human Resources Hospitals:
 - Jackie Withrow Hospital, Beckley
 - Hopemont State Hospital, Terra Alta
 - John Manchin, Sr. Health Care Center, Fairmont
 - Lakin State Hospital, West Columbia
 - Mildred Mitchell-Bateman Hospital, Huntington
 - Welch Community Hospital, Welch
 - William R. Sharpe, Jr. Hospital, Weston
- West Virginia Parkways Authority

David G. Dial, P.E.**Senior MEP Engineer**

David has over twenty-eight years of experience in the design and commissioning of mechanical and electrical systems. He provides HVAC, electrical and plumbing design services for a variety of clients in West Virginia. His background includes managing operating and maintenance repair and construction services for HVAC, plumbing, electrical and maintenance. He has managed grounds maintenance, security staff, information technology, IT NASA network, video surveillance and telephone systems.

David has experience in Maintenance Engineering in plumbing, HVAC, clean room design, dust collector selections, steam and condensate flow measurement, transfer of steam production from in-house to private contractor, athletic field lighting design, and farm pump water design. He has even completed a successful energy grant application from the U.S. Department of Energy. His Environmental Design experience includes PCB remediation, Air Pollution Control Commission annual reporting, removal of underground fuel storage tanks/pumps, installation and testing for radioactive material, conversion of a fleet of vehicles to operated dual fuel (gasoline and natural gas) including training, designing a filling station, custom built compressor station, cylinder operations area, filling post and monitoring of natural gas usage.

David has been involved in the design, document development, contract administration and recommissioning of the structural, mechanical and electrical disciplines of several WVU projects including Downtown Steam Tunnel Assessment, Coliseum Tunnel Redesign, Towers Exercise Room, Brooks Clean Room, lighting retrofits at Brooks Hall, exterior lighting for Mountainlair Parking Garage, cooling towers replacement at the Chemistry Annex, replacement of electric hot water boilers with natural gas pulse steam boilers, HVAC controls for Allen Hall, measure flow for sub metering/billing for campus steam/condensate systems, PCB removal from electrical equipment on campus, and power/cooling for a data Center at the WVU/NASA facility.

Other project experience includes design for Trinity High School's HVAC, plumbing and electrical system, industrial dust collector system for the Percival Dust Collector and replacement of rigging of a 2500 seat auditorium. As a production engineer, David optimized design of medical quality cryogenic freezers, incubator and shaker including scheduling the freight trucks, quality assurance of sheet metal shipments, writing repair manuals and setting up insulation.

**EDUCATION**

Bachelor of Science Mechanical Engineering, West Virginia University, 1978

Masters of Science Environmental Engineering, West Virginia University, 1980

REGISTRATION

Professional Engineer, West Virginia, No. 11692

Construction Phase Services



architecture
planning
interior design

During the construction phase of a project, IKM works hard to represent the interest of the Owner. Because we make a great investment in time and effort throughout the design phase and construction document phase, we provide a complete and thorough set of drawings and specifications for contractors' bidding purposes.

IKM Incorporated has been involved with the design, bidding and construction administration services for every project we have shown in this statement of qualifications. At IKM, we do not change teams when construction begins. We feel the most knowledgeable person on the project, the project manager, supported by the Principal-in-Charge should be involved throughout the construction and complete the post occupancy evaluation. It is also important to note that this same person will be responsible for the schedule and will be responsible for keeping the Contractor on schedule.

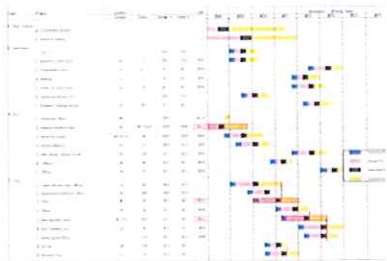
Since we interact with the client and end user throughout this process to create a design solution with you and carefully research and select the best materials that are suited to your project, we anticipate minimal changes to the design during construction. We will carefully monitor the progress to ensure the project is built as it was intended in the drawings.

All construction phase services listed in the AIA Document B141 Section 2.6 are provided as part of our fees. These include:

- Function as the Owner's agent;
- Represent and consult with Owner;
- Periodic site visits based on project demands, to observe construction and determine whether it is proceeding in accordance with the requirements of the contract documents and reject work that does not meet contract documents;
- Review Contractors applications for payment;
- Manage construction administration using the AIA documents;
- Respond to RFIs (Requests for Information);
- Provide interpretation and clarification of contract documents as required;
- Review shop drawings, product literature, material, samples;
- Attend construction progress meetings with Owner and Contractor;
- Issue supplemental instructions as required;
- Prepare change orders;
- Conduct inspections to determine dates of substantial completion; and,
- Punch list.

As an additional service, IKM has provided a Clerk of the Works as a full time representative on the site.

Schedule and Budget Control



Schedule

The IKM Team has a firm commitment to adequate and appropriate staffing, and rigorously monitors staffing as compared to the status of ongoing work and project workload. Corporate policy requires biweekly updating of staffing and workload projections so that internal tracking systems for IKM staffing reflect the latest available information. This overlay with the team meetings with all the consultants where project and task scheduling are addressed, monitored and adjusted to keep the prearranged schedule in place. This allows project teams to be supplemented to meet surges in workload or unexpected deadlines. Our Team has a firm commitment to provide adequate resources in personnel, technology and finances.

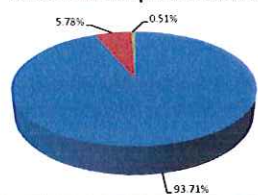


Budget

Projects of this magnitude require diligent control of the projected construction costs as it relates to budget. Our project control system follows a pre-established format. Our system combines financial monitoring with an assessment of progress, client satisfaction, and technical performance.

The initial step is the Owner's establishment of a budget. This often is in place prior to the retention of the design professional. If it is not, the Project core team (Owner, Architect and Construction Manager) needs to establish a realistic budget based on the scope of work. IKM has found success in utilizing a third party estimator in the process. We engage them with team and work through refining a scope to establish an initial estimate based on square footage. This estimate will include an agreed upon 'design' contingency which is a separate item from the construction contingency. This is in place to cover the unknowns of the design due to the preliminary nature of the estimate.

West Penn Hospital Acute Rehab



As the project moves through the design phases, the estimate is revisited at the 30%, 60% and 90% stages. Each successive stage adds more detail. The accuracy level increases as more information and detail are developed. As that accuracy level increases, the design contingency decreases.

As each of the phases we recommend that an estimate is establish by the third party estimator, who is a consultant to the design team as well as having the construction manager producing an estimate. These two estimators need to have an agreement as to format so that they are comparable. An estimate reconciliatory meeting where a phase final estimate can be developed.

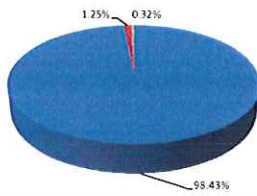
That meeting is a venue to establish any value modification required to ensure the project remains within the budget parameters. These



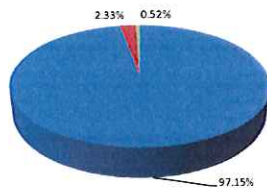


architecture
planning
interior design

Reading Post Acute



UPMC Mercy Rehab



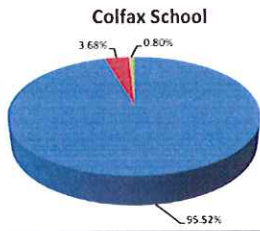
modification options are assigned values and the Owner determines which to incorporate into the design.

At the bi-weekly sub consultant meetings estimate conformance is a standing agenda line item. Any subconsultant who questions whether an element of the evolving design is consistent with the estimate creates a request to the construction manager for verification of informance. This process keeps construction costs as a vital component of design and offers the project team the requisite information to make appropriate decisions.

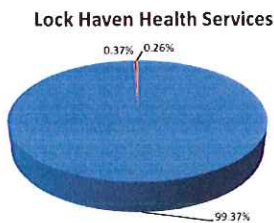
Estimating Effectiveness



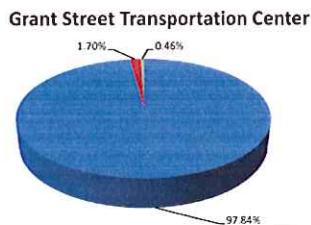
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Typically, IKM utilizes the services of a professional cost estimator to prepare our construction cost estimates. They are specialists in construction cost estimating, including material costs, construction methods and techniques, subcontractor purchasing and labor conditions and rates. We rely on experts to do our cost estimates, as we believe they are much more reliable and proficient at it than we architects and engineers are, and are in much closer touch with the vagaries of the construction industry than we are.



In a construction project delivered in a conventional manner, we typically have our estimators prepare a total of four cost estimates when working on a project through construction. The first estimate is at the conclusion of the program phase prior to commencing schematic design, and one estimate each before the conclusion of the schematic design phase, design development phase and construction document phase.



The program phase estimate is a parameter square foot estimate by specification division based on the program square footage and the building type. This estimate gives a general indication how close to the budget the program is. Since the estimate is not based upon an actual design, it will carry a rather large contingency. If there is too large a difference between the estimate and the budget, adjustments have to be made to either the program or budget.

Each of the other three estimates is based upon a quantity take off of labor and materials by specification division. Since less detail is provided at the schematic design phase (and the cost consultant, in close cooperation with the architect and consultants, must anticipate quantities and extent of materials and systems) than at design development, and less detail is provided at design development than at construction documents, a decreasing percentage contingency is used for schematic design, for design development and for construction documents.

If any one of the three estimates indicates an estimated cost in excess of the budget, adjustments are made to the design and/or documents (drawings and specifications) by either: decreasing the size of the program, increasing the budget (and not changing the design), or value engineering of materials and systems. This entails evaluating the first cost versus the life cycle cost of the various building components, and may result in decreasing the quality and/or quantity of them. In addition to value engineering, add or deduct alternates will be considered for inclusion in the bid documents, in which components can either be added or deducted, or substitutions proposed.

Examples of Estimates

Project Name	Estimate	Bid
University of Pittsburgh Scaife Hall Renovations	\$2.6 million	\$2.31 million
Concord University Alumni Center	\$5.1 million	\$5.2 million
Grove City College Carnegie Hall Alumni Center	\$5.7 million	\$5.7 million
University of Pittsburgh McGowan Institute for Regenerative Medicine	\$11.5 million	\$11.9 million



Quality Policy

The guiding principles for the Quality Management Plan (QMP) are rooted in a Quality Policy that has these essential elements.

- *Client Satisfaction Comes First - While accuracy of construction documents is essential, quality is more than just that. A quality project is one that meets the Client's needs and allows the Client to carry on its mission in a most effective manner.*
- *Prevention vs. Correction - Quality is not added on to the end of a project. It is built in.*
- *Quality is Foremost a Management Responsibility - Success requires the participation of all members of a team, but it remains the responsibility of management to provide the guidance and the resources needed to succeed.*

Quality Process and Quality Control Procedures

Our Quality Process involves these three elements:



- **Quality Planning** - In the planning stage, we identify clients' program requirements, determine which quality standards apply, and determine what will be done to satisfy these program requirements.
- **Quality Assurance** - In this effort, we make sure that the right technical staff are committed to each task order, and ensure that the quality control efforts are taking place. We verify that these efforts are producing the desired results, and we make adjustments to the processes as necessary.
- **Quality Control** - In this effort we perform inspection by design professionals not directly involved in the production of the documents directly on the product itself to determine that it meets the requirements developed in the quality planning stage. We also identify ways to eliminate causes of unsatisfactory results such as change orders created by errors and omissions.

Quality Planning is done up front. Quality Assurance and Quality Control are continuous throughout the life of the project.



Quality Control Procedures for Plans, Specifications, and Design Analysis

Our procedures consist of the following steps that are performed at specified milestones (15%, 30%, 60% and 100%) and submissions:

- Individual discipline technical check. Each discipline checks drawings, specifications, and design calculations for accuracy, using non-design team members.
- Independent Team Review.
- Check against design criteria and submittal requirements.



- architecture • Inter-discipline coordination reviews.
- planning • Constructability review.
- interior design • Review for conformance with budget.

IKM has developed, on the following pages, a comprehensive checklist to facilitate a complete and thorough review of the developing documents

Quality Control Procedures for Electronic Documents

All electronic documents and files (meeting minutes, transmittals, drawings, etc.) for all projects are stored on our project server using a pre-established file structure directory. All team members are familiar with this process that allows for organized and quick access and retrieval of information.

All submissions are also saved on CD's so that an accurate record of the project is kept. When appropriate, electronic files are provided in .pdf format so they cannot be altered. IKM is experienced with electronic bidding format procedures and providing .pdf and .cal files for bidding purposes. As an additional quality control procedure, we plot and review the .cal files we create to be sure that the conversions match the CAD file plots.



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IKM QUALITY CONTROL CHECKLIST

PROJECT TITLE:			
IKM PROJECT NO.:		REVIEW %	
SUBMITTAL DATE:		REVIEW DATE:	
PROJECT MANAGER			

Note: All percentages to the right of each checklist item indicate the latest production stage at which the item should be incorporated into the set of documents and coordinated with specifications and other disciplines.

		PM	Coordinated			
		Rev	Yes	No	N/A	
1.	Cover Sheet/ Drawing Index					
	a. Project Title matches individual drawing title blocks.					15
	b. IKM and Consultant information provided (including contacts and phone numbers)					15
	c. Index grid issue dates are accurate and coordinated with project phase and drawing dates.					30
	d. Index drawing numbers and titles match actual individual drawing title block information (all disciplines).					60
	e. Drawings listed in the index have been included in the set.					15
	f. Site location Map.					15
2.	Civil / Site Plans (where applicable) – Verify that:					
	a. New underground utilities (power, telephone, water, sewer, gas storm drainage, fuel lines, grease traps, fuel tanks) have no interferences.					30
	b. Existing power/telephone poles, pole guys, street signs, drainage inlets, valve boxes, manhole covers, etc., do not interfere with the new driveways, sidewalks, or other site improvements.					60
	c. Limits of construction, clearing, grading, sodding, grass or mulch are shown and are consistent in other disciplines.					60
	d. The locations of flag poles, dumpster pads, generator pads, transformers, cooling towers, and vaults have been coordinated with other discipline site plans.					60
	e. Profile sheets show other underground utilities and avoid conflicts.					60
	f. Horizontal distances between drainage structures and manholes match scaled dimensions on both plan and profile sheets.					60
	g. Building footprint and finished floor elevations match other disciplines.					60
	h. Civil drawings are consistent with Landscape drawings.					30
3.	General Information Sheet (Typically Sheet No. A0GN):					
	a. Standard and/or project specific legend & keys provided.					15
	b. Standard IKM General Notes are provided (edited as required for this project).					15



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IKM QUALITY CONTROL CHECKLIST

		PM	Coordinated			
		Rev	Yes	No	N/A	%
	h. Verify that the keying of enlarged plans are complete and accurate.					30
	i. Expansion joints are noted and coordinated with structural drawings and keyed to any appropriate details where applicable.					30
	j. Verify that the keying of interior elevations is complete and accurate. Interior elevations should be keyed to enlarged plans if provided.					60
	k. Provide detailed notes as required to clarify intent of work or to identify equipment or furnishing. Key notes to floor plan.					60
	l. Show and note all recessed equipment, accessories or electrical panels and coordinate requirements with partition types and/or existing wall conditions. Verify that recessed devices do not interfere with fire or smoke rating requirements.					60
	m. Provide reference to separate furniture, fixture and equipment (FF&E) drawings where applicable – OR – show and note this information on the floor plans along with a detailed Equipment Schedule. The schedule should indicate any Owner furnished materials.					60
	n. Coordinate location, types, and quantities of plumbing fixtures with the Plumbing Drawings. Coordinate medical gas piping requirements with the wall conditions and types.					30
	o. Key exterior building elevations.					30
7	Exterior Elevations and Building Sections (A3 Series Drawings)					
	a. Coordinate building elevations with the floor plans. Check window, door, and louver openings. Indicate finished floor elevations and floor to floor dimensions. Coordinate with structural drawings.					30
	b. Key all appropriate building sections, wall sections or details.					30
	c. Key windows to a glazing schedule or to appropriate details.					60
	d. Note all exterior materials and features on elevations.					60
	e. Coordinate building sections with plans and elevations.					30
	f. Building sections to indicate floor to floor dimensions and finished floor elevations.					30
	g. Indicate room names and numbers coordinated with plans.					60
	h. Indicate control joints and key CJ details.					60
8	Enlarged Plans (A4 Series Drawings)					
	a. Verify that background matches small scale plans and that room names, room numbers, and door numbers all match.					30
	b. Cross reference enlarged plans to small scale plan with appropriate room name and number.					60
	c. Key interior elevations					60



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IKM QUALITY CONTROL CHECKLIST

		PM	Coordinated			
		Rev	Yes	No	N/A	%
	h. Verify that the keying of enlarged plans are complete and accurate.					30
	i. Expansion joints are noted and coordinated with structural drawings and keyed to any appropriate details where applicable.					30
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	k. Provide detailed notes as required to clarify intent of work or to identify equipment or furnishing. Key notes to floor plan.					60
	l. Show and note all recessed equipment, accessories or electrical panels and coordinate requirements with partition types and/or existing wall conditions. Verify that recessed devices do not interfere with fire or smoke rating requirements.					60
	m. Provide reference to separate furniture, fixture and equipment (FF&E) drawings where applicable – OR – show and note this information on the floor plans along with a detailed Equipment Schedule. The schedule should indicate any Owner furnished materials.					60
	n. Coordinate location, types, and quantities of plumbing fixtures with the Plumbing Drawings. Coordinate medical gas piping requirements with the wall conditions and types.					30
	o. Key exterior building elevations.					30
7	Exterior Elevations and Building Sections (A3 Series Drawings)					
	a. Coordinate building elevations with the floor plans. Check window, door, and louver openings. Indicate finished floor elevations and floor to floor dimensions. Coordinate with structural drawings.					30
	b. Key all appropriate building sections, wall sections or details.					30
	c. Key windows to a glazing schedule or to appropriate details.					60
	d. Note all exterior materials and features on elevations.					60
	e. Coordinate building sections with plans and elevations.					30
	f. Building sections to indicate floor to floor dimensions and finished floor elevations.					30
	g. Indicate room names and numbers coordinated with plans.					60
	h. Indicate control joints and key CJ details.					60
8	Enlarged Plans (A4 Series Drawings)					
	a. Verify that background matches small scale plans and that room names, room numbers, and door numbers all match.					30
	b. Cross reference enlarged plans to small scale plan with appropriate room name and number.					60
	c. Key interior elevations					60



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IKM QUALITY CONTROL CHECKLIST

9	Interior Elevations (A5 Series Drawings)					
	a. Coordinate with floor plans.					30
	b. Provide vertical dimensions and/or mounting heights for all casework, millwork, equipment, and accessories. Indicate all electrical, phone and data devices as well as medical gas outlets where applicable. Coordinate with MEP drawings.					60
	c. Coordinate ceiling heights and bulkheads with reflected ceiling plans.					30
	d. Key casework/millwork elevations to appropriate details.					60
	e. Note all finish materials, equipment, and furnishings. Note and key cornerguards, bumper rails, handrails, etc., to details.					60
10.	Reflected Ceiling Plan (A6 Series Drawings)					
	a. Coordinate with floor plans and finish plans.					30
	b. Indicate ceiling materials (graphically) and ceiling heights.					30
	c. Indicate all lighting fixtures, electrical devices, HVAC devices and sprinkler heads. Coordinate with MEP drawings.					60
	d. Special ceiling features (i.e., Bulkheads, light coves, light fixture patterns, etc.) to be noted and dimensioned or keyed to details where applicable.					60
	e. Provide a legend listing all ceiling devices and materials.					15
	f. Notes any requirements for special structural support for equipment or fixtures.					30
11.	Enlarged Stair/Elevator Plans and Sections (A7 Series Drawings)					
	a. Coordinate with other floor plans.					15
	b. Review dimensions (treads, risers, and clearances). Coordinate floor to floor dimension with plans / bldg. sections.					30
	c. Check guardrails and handrails for conformance to code requirements (dimension, diameter, clearances, extensions).					30
	d. Coordinate with structural steel framing – check for interferences with overhead clearance.					30
	e. Coordinate with finish schedule.					60
	f. Review elevator shaft plans and sections for compliance with shaftway fire resistance rating requirements – coordinate with and key appropriate P-Types.					30
	g. Review elevator pit requirements (sump, sump pump, ladder, lighting, etc.).					30
	h. Coordinate hoist beam, threshold support, guiderail support, etc., with structural drawings.					30
	i. Review machine room code requirements (Manufacturers' minimum area requirements, clearances, door swing, etc.).					30
	j. Coordinate smoke & fire detection and sprinkler requirements with the MEP drawings.					60



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IKM QUALITY CONTROL CHECKLIST

12. Exterior Wall Sections & Ext. Details (A8 Series Drawings)					
a. Coordinate with plans and key locations on elevations.					30
b. Check finished floor elevations and floor to floor dimensions. Coordinate with structural framing and foundation drawings.					30
c. Coordinate with roof and parapet conditions – key to details as needed for insulation and edge conditions. Check R-Value.					60
d. Details, note and dimension the exterior wall construction – indicating all elements of the wall design (face material, flashing, weeps, mortar control, sheathing, insulation, back-up material, vapor barrier, fire stopping and interior finish material. Check R-Value requirements and dew point calculations. PM to review design with mfg. representative.					60
e. Coordinate with door, window and louver opening and key to appropriate details for lintels, blocking and flashing.					30
f. Review below grade damp-proofing/waterproofing, perimeter drainage and insulation requirements and key to appropriate details. Coordinate with specifications.					60
13. Door schedule and Details (Typically Drawing A9.1)					
a. Coordinate door numbers, room names and door opening widths with the floor plans.					30
b. Provide door and frame type legends and key to the door schedule. Coordinate frame types with the wall construction (masonry vs. metal stud).					30
c. Provide head and jamb details that are coordinated with the appropriate partition types and keyed to the door schedule.					30
d. Review UL Label requirements for all door openings in fire-rated partitions – coordinate with schedule. Review glazing requirements (glass types and area restrictions).					30
e. Coordinate power and control requirements for automatic doors or security type hardware with electrical drawings.					60
14. Interior Details (A9 Series Drawings)					
a. Details are properly keyed and cross referenced.					30
b. Details are noted and dimensioned.					60
c. Millwork / casework sections and details are provided for each unique condition and properly keyed to interior elevations. A hardware schedule is provided for the millwork details (including lock requirements. Coordinate millwork details with Electrical power and lighting drawings.					60
d. Coordinate millwork finishes with the finish schedule and specifications.					60
e. Coordinate millwork finishes with the finish schedule and specifications.					60
15. Interior Finish Plans and Schedule (FN Series Drawings)					
a. Coordinate with architectural floor plans and elevations.					30
b. Coordinate with specifications.					60



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IKM QUALITY CONTROL CHECKLIST

	c. Verify that finishes comply with Owner's latest Interior Finish Standards.					
16.	Plan Check Kitchen Dietary – Verify that:					
	a. The equipment layout matches other discipline floor plans and that there are no conflicts with columns.					30
	b. The Summary of Work is consistent with the scope.					30
	c. The specifications describe phasing requirements or alternates where applicable.					30
	d. The architectural finish schedule and list of finish material is consistent with Division 9 Table of Contents.					60
	e. All items specified "as indicated" or "where indicated" in the specifications are in fact indicated on contract drawings.					60
	f. Major items of equipment specified are consistent with the contract drawings.					60
	g. All materials shown on the drawings or required to complete the project are included in the specifications.					60



DEPARTMENT OF VETERANS AFFAIRS
Louis A. Johnson VA Medical Center
1 Medical Center Drive
Clarksburg, WV 26301-4199

January 25, 2010

IKM Incorporated
Attn: Mr. Jeffrey K. Brown
One PPG Place
Pittsburgh, PA 15222

Dear Mr. Brown:

I would like to take this opportunity to express my appreciation for IKM's assistance in designing a Master Facility Plan for the Louis A. Johnson VA Medical Center (LAJ VAMC), Clarksburg, WV.

As you are aware, the LAJ VAMC is a very active and growing facility with many additional space, infrastructure and modernization needs. From the very onset of the planning process, the professionalism and collaboration displayed by IKM's team of professionals were exemplary. The positive communication and interaction between IKM and the Medical Center staff empowered employees at all levels to contribute and ensure the end product (master plan) met the needs and objectives of our facility's long term strategic goals. The Master Plan will serve as an invaluable roadmap in addressing our future needs for both growth and modernization.

Again, thank you for an outstanding Master Facility Plan.

Sincerely,

A handwritten signature in dark ink, appearing to read "W. E. Cox", is positioned above the printed name.

WILLIAM E. COX
Director

VA Pittsburgh Healthcare System
University Drive
Pittsburgh, PA 15240

January 31, 2008


Mr. Mark Witouski
Vice President
IKM Incorporated
1 PPG Place
Pittsburgh, PA 15222

Dear Mark:

I would like to commend IKM for your outstanding work on the design of the new VA Pittsburgh Healthcare System (VAPHS) Emergency Department. I can appreciate the challenge to design new space providing ambulance accessibility, patient privacy, and improved patient flow within an existing building configuration.

Our new Emergency Department allows our veterans to receive medical care in world class, leading edge space, and staff are able to work together to provide the highest quality patient care with the latest technology. The new space is not only beautiful, but durable, efficient and effective.

Your team took the time to understand how the VAPHS operates and designed the space to best serve our needs. Our goal at VAPHS is to not only lead, but define excellence. IKM has accomplished this goal with our new Emergency Department. I thank you for your commitment to excellence.



TERRY GERIGK WOLF FACHE
Director



Washington County Health Center

36 Old Hickory Ridge Road, Washington, PA 15301
Phone: (724) 228-5010

July 28, 2006

To Whom It May Concern,

I am pleased to provide a letter of reference for IKM Incorporated as architects for your project. We have worked with IKM for nearly the past four years, and have been pleased with their work.

We recently completed a renovation of two of the existing nursing units in our facility. IKM assisted us throughout the process of planning, the development of drawings and bid specifications and documents, and the construction phase through to the completion of our project. I was particularly pleased with their innovative use of the available space to provide us with a very functional and attractive design.

The IKM team, and particularly the principal in charge of our project, Mr. Jeff Brown, worked closely with the Health Center staff to ensure that our needs and concerns were met. They were responsive to any and all issues and concerns that developed throughout the various phases of the project.

I would not hesitate to recommend IKM for consideration for your project.

If you would like to discuss this in further detail, please feel free to call me at 724.223.7198.

Sincerely,

Alvin W. Allison, Jr.
Administrator

A SERVICE AGENCY OF WASHINGTON COUNTY

Larry Maggi
Co-Chairman

J. Bracken Burns, Sr.
Co-Chairman

Diana L. Irely
Commissioner





WEST PENN ALLEGHENY HEALTH SYSTEM

2570 HAYMAKER ROAD, MONROEVILLE, PA 15146

412-858-4588

ROBERT M. SCOSKIE
Vice President
Business Development/Operations

FAX: 412-858-2088

E-MAIL: rscoskie@wpahs.org

December 30, 2004

To Whom It May Concern:

Without hesitation, I am please to write a letter of recommendation on behalf of Roger Hartung for advancement within the American College of Healthcare Architects.

As the lead architect for two strategically important expansion projects for Forbes Regional Hospital, Roger has provided guidance to our management team throughout the design and construction phases of our projects. As Forbes has begun major renovation of our Emergency Department, Roger's insight is evident by the end-product of the initial phase of our project. In addition to his design services, Roger has become a critical participant on our multi-disciplinary team; the positive relationship he has built with our team is exemplary.

Personally, I find Roger to be objective, diligent and organized – critical attributes for his role. He and his team have continued to deliver solid results for Forbes.

If I may be of any further assistance to the selection process, please do not hesitate to contact me at 412-858-4588.

Sincerely,

Robert M. Scoskie
Vice President
Business Development/Operations

The Reading Hospital and Medical Center

Physical Medicine and Rehabilitation

Kelley C. Crozier, MD, Chief

Paul S. Brockman, MD

Mark D. Chai, MD

Somkiat Hemtasilpa, MD

Lihong Lu, MD

Haiping Mei, MD, PhD

Patricia P. Rhada, MD



Telephone: 610-988-4566

Facsimile: 610-988-9065

To Whom It May Concern,

This serves as a letter of recommendation for IKM architectural firm. I had the pleasure of working with IKM for the past several years on our new freestanding rehabilitation hospital which is slated to open next month.

I found the firm to be very responsive to our requests, no matter how last minute and unorganized we were. I was very appreciative of the clinical acumen of the architects of the firm, especially Michael McDonnell. We were able to describe clinically what we wanted to do in a space, and he was able to design spaces better than we even imagined on our limited budget and size.

The firm was very good at incorporating seemingly divergent needs into our space successfully. They worked with large groups of demanding clinicians who gave input for the new hospital with great finesse and skill, amazingly pleasing us all with final designs. Mr. McDonnell was extremely patient in assisting us to understand architectural concepts of size and how it applied to the building, frequently pacing out spaces to make the blueprints more real to us.

IKM was expert in the rules and regulations that needed to be incorporated into the hospital; their contacts at the state and national level were invaluable in assisting us with compliance and licensure issues.

Although we are located five hours from IKM's main office, we were made to feel as though we were their only client. Meetings, surveys, and celebrations always had onsite representation.

IKM exceeded my expectations in every way. I never dreamed an architectural firm would have such clinical acumen. They really understood hospitals from a patient and visitor perspective, and I was extremely impressed with how accomplished they were in working collaboratively with our clinicians. I am so excited and pleased with our new hospital, and it is largely due to the expertise of IKM.

I would be happy to speak with you if you have further questions.

Sincerely

Kelley C. Crozier, MD, MBA

Medical Director

The Reading Hospital for Post Acute Rehabilitation

Engineering for Health Care Facilities

Our project experience includes engineering for three divisions of CAMC, the largest health care provider in West Virginia.



CAMC General Division



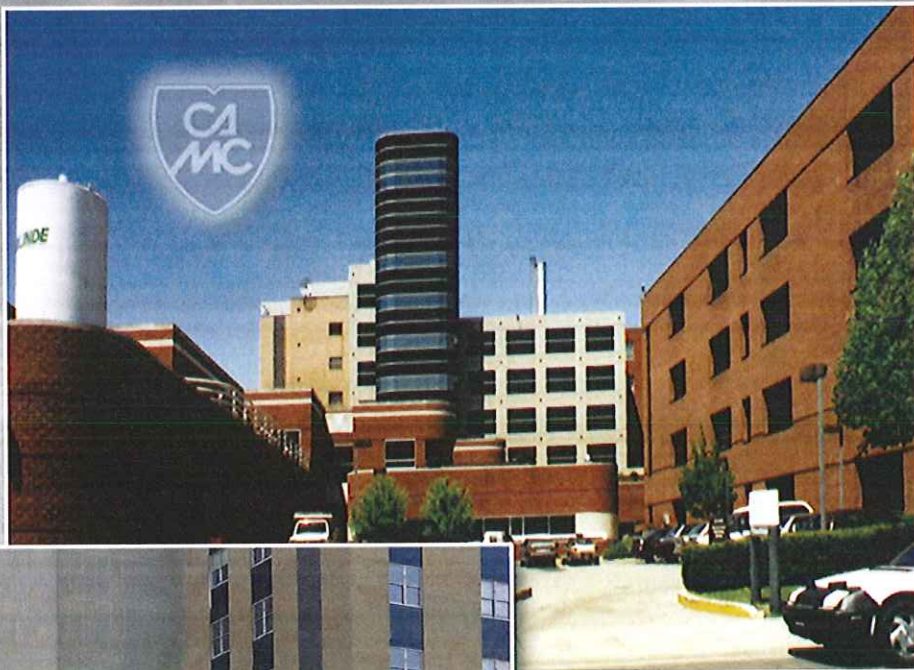
CAMC Memorial Division



CAMC Women and Children's Hospital

CAMC General Division

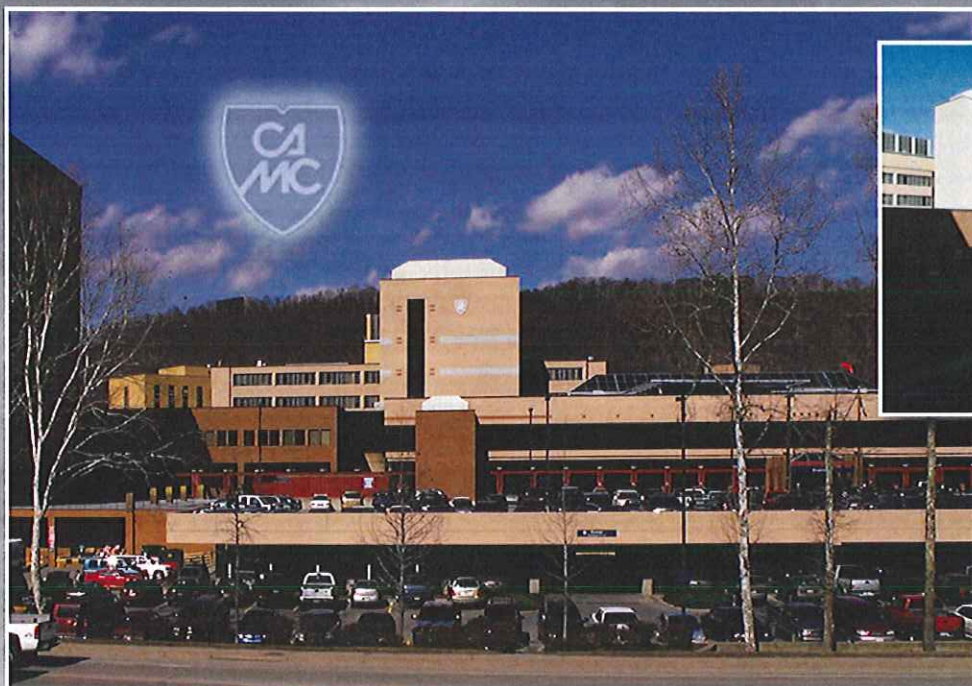
Energy program saved CAMC approximately \$800,000 annually—plus it paid for the improvements made to the mechanical, electrical and controls systems.



Design/Consulting Services

Engineering for Health Care Facilities

Our project experience includes engineering for three divisions of CAMC, the largest health care provider in West Virginia.



Hospital Renovations:

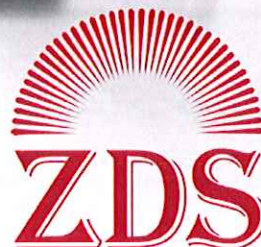
Special Care Facility, Physical Therapy, Emergency Room Retrofit, South Patient Retrofit, Medical Records and District Chiller Plant Replacement and Interconnect

Hospital Renovations:

LDRP Additions, NICU and PICU, Emergency Room, Patient Rooms, as well as the District Chiller Plant Replacement & Interconnect



Since 1982, ZDS principals have provided engineering services while meeting stringent health care requirements and safety of the patients for CAMC.



Design/Consulting Services