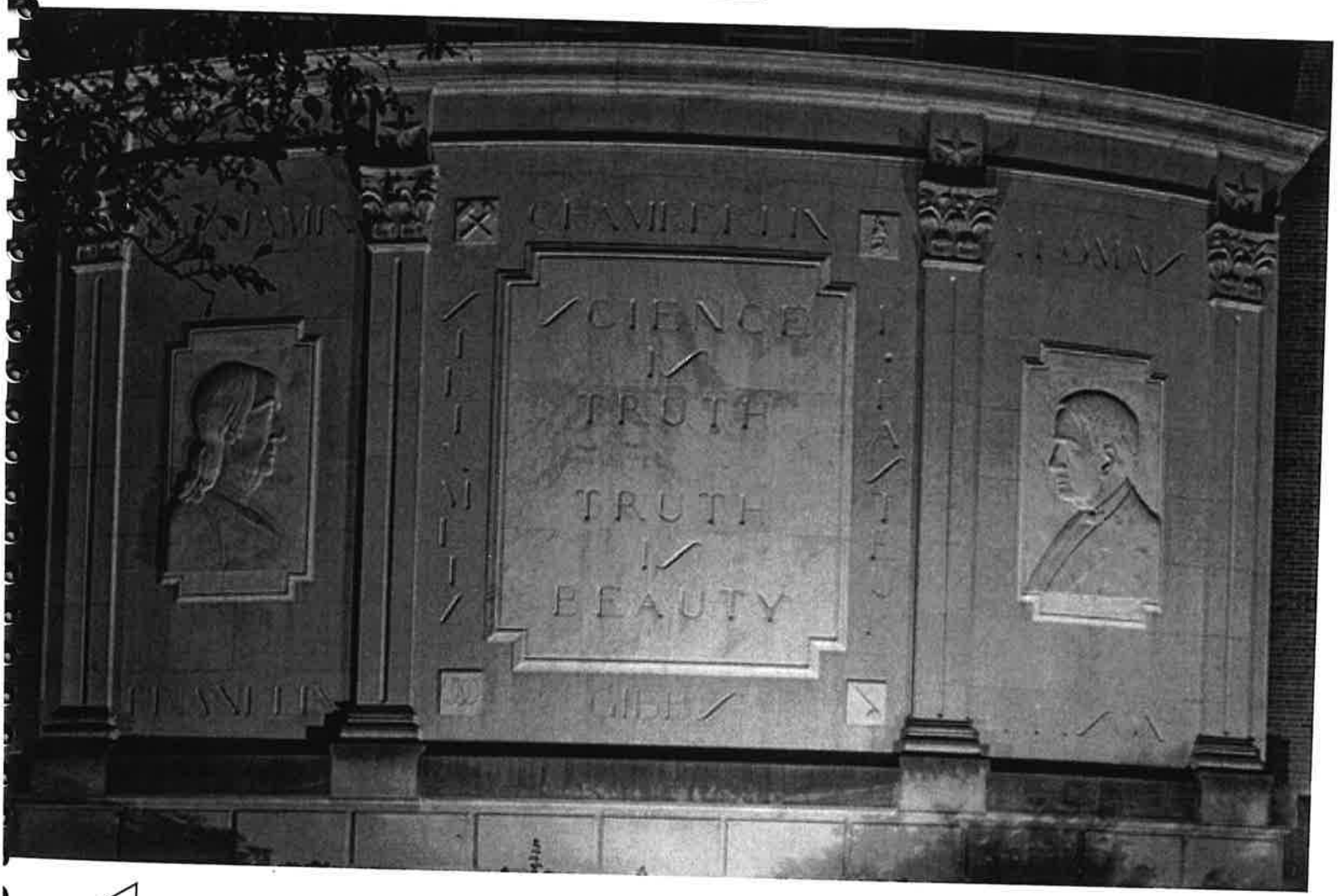
EXPRESSION OF INTEREST

MARSHALL UNIVERSITY SCIENCE BUILDING FEASIBILITY STUDY

MARSHALL



Edward Tucker ARCHITECTS, INC.

1401 Sixth Avenue
Huntington, West Virginia 25701

304.697.4990 (T)
304.697.4991 (F)

eta@etarch.com
etarch.com

Edward Tucker
ARCHITECTS, INC.

April 29, 2021

Marshall University
Office of Purchasing
One John Marshall Drive
Huntington WV 25755

re: Expression of Interest #R2101624
Marshall University Science Building Feasibility Study

Dear Selection Committee:

Enclosed for your consideration is our Expression of Interest to provide a condition assessment and feasibility study of the existing Science Building.

Our firm is celebrating 25 years of architectural practice in Huntington this year. Our staff of 10 are dedicated to the growth and development of our area, as it is our home. Our relationship with Marshall University is one of our most valued, as we have had the honor of working with the university on projects dating back to 1998 with the design of the original home for the Forensic Science program in the locker room building of the old Fairfield Stadium.

I believe we are the most qualified and capable firm to assist in this effort. We have worked with Marshall for decades and have demonstrated many times our specific expertise in renovating buildings in this community both on time and within budget. We have recent experience in the Science Building, as well as the Byrd Biotech building, and can work closely with Marshall stakeholders, regulatory agencies, and the contracting community. Our office is only a short walk to the project site and, as such, we can easily conduct meetings and complete field work. Our location offers exceptional value to the University, as travel expenses will not be charged to the project.

The team that we have assembled represents an ideal combination of technical knowledge and a practical approach to solutions. We have had the pleasure of working on several projects with CMTA as building systems engineers, and are very impressed with their responsiveness, creativity, and diligence. Their firm philosophy is based around the idea of energy-use reduction, to provide valuable, sustainable solutions to their clients. We are also proud of our long-standing relationship with Schaefer for structural engineering, and their knowledge of the Science Building and Marshall's campus is unparalleled.

The Science Building is one of the key instructional hubs for Marshall and we are excited about the potential to evaluate how to transform it into a well-functioning, cutting-edge teaching and research facility that will be a tremendous asset to the university for years to come. We hope that if granted an interview we can show you firsthand our commitment to this endeavor. We appreciate every opportunity that Marshall University has provided to our firm, and hope that our continued collaboration with you on the Science Building Feasibility Study will be another chapter in our successful history.

Sincerely,

EDWARD TUCKER ARCHITECTS, INC.

Phoebe P. Randolph

Phoebe Patton Randolph, AIA, LEED AP BD+C

1401 Sixth Avenue
Huntington, West Virginia 25701
304.697.4990 telephone
304.697.4991 facsimile
| etarch.com |

FIRM PROFILE

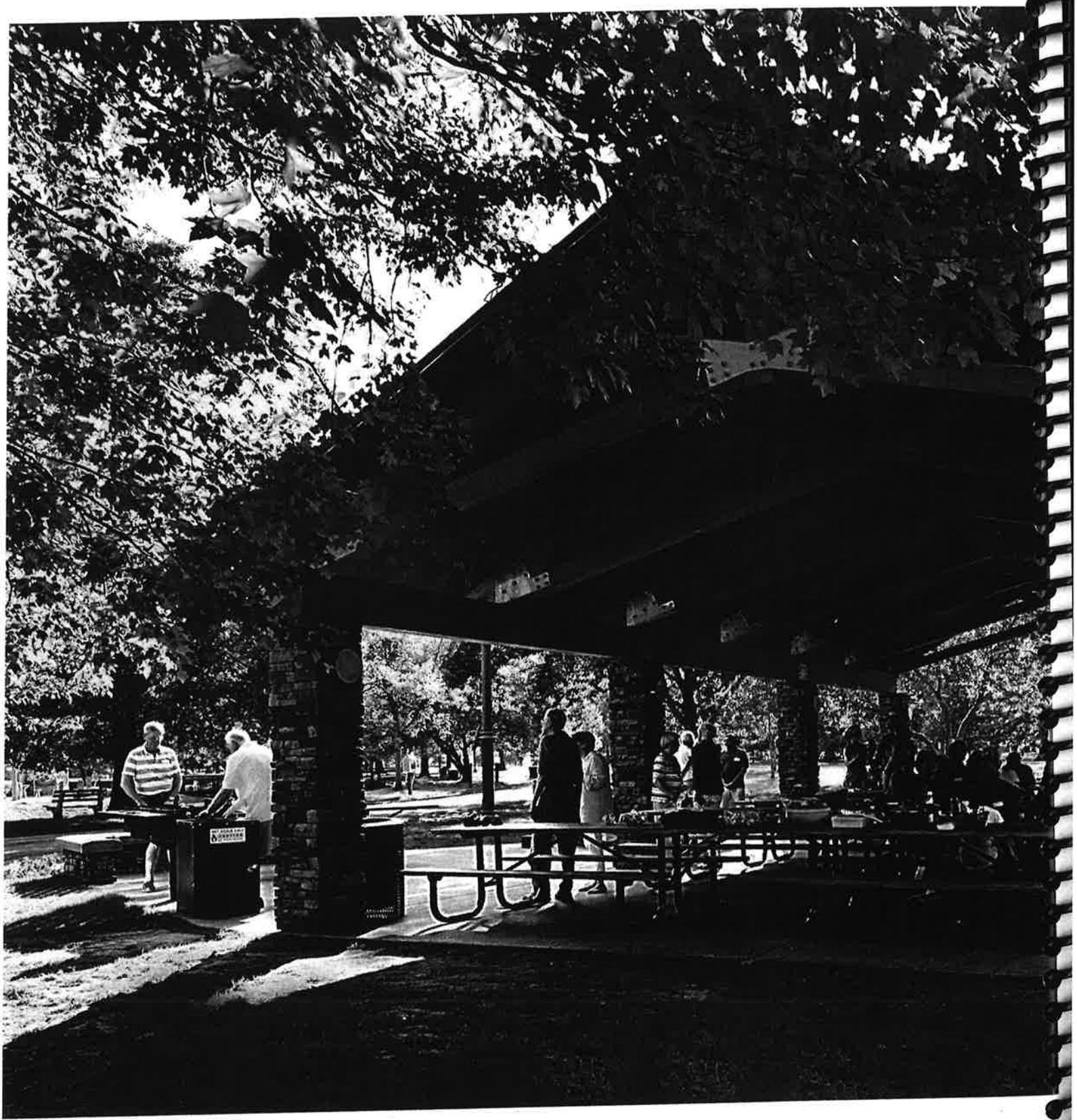
Our firm's reputation was established through high quality design & service delivered by our talented, accomplished professionals.

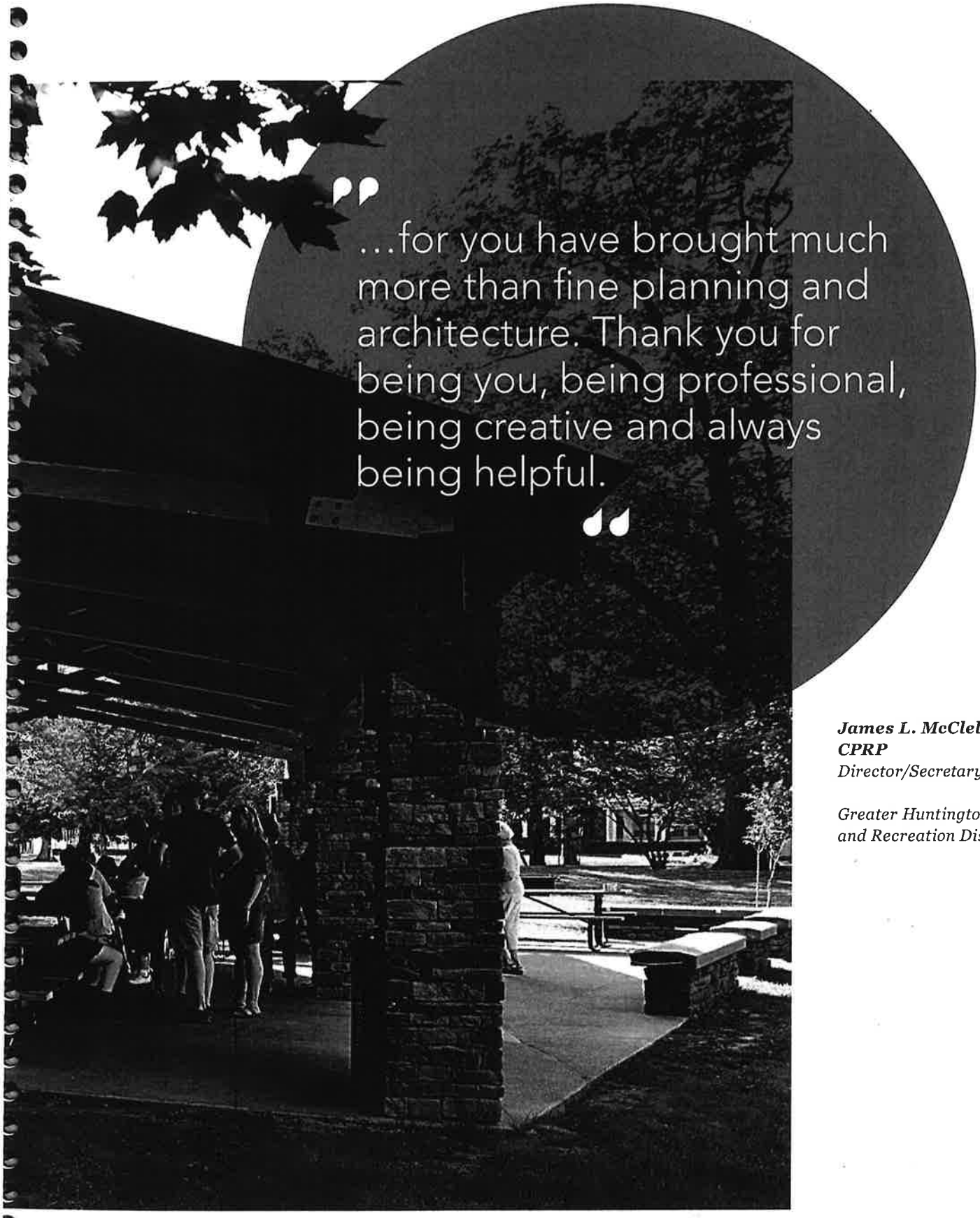
Edward Tucker Architects, Inc. (ETA) is a full-service, 9 person firm located in Huntington, West Virginia with a heritage dating back to 1910. We provide feasibility & planning services, architecture, interiors and contract administration. Our award-winning, multi-disciplinary staff has expertise in a wide range of facility types for valued public and private clients across the region, including health care, higher education, K-12 academic, industrial, research laboratories, museums, churches, libraries, and civic buildings.

The relationships that we build with our clients are the foundation of our firm. Our attention to detail, level of service, and the added value we bring to each project has resulted in many loyal, repeat clients. By respecting each project's unique constraints and opportunities, we provide innovative, responsive, and beautiful architectural design solutions.

Founding principal, Edward Tucker, FAIA, has built a culture of inclusiveness and collaboration since he established the firm in 1996. The firm includes seven architects who are supported by architectural interns, an interior designer, and office administration. Every person in the firm contributes their creativity, knowledge, and expertise to projects. In 2014, Nathan Randolph, AIA and Phoebe Patton Randolph, AIA were promoted to Principals, beginning an ownership transition process to ensure the firm's long-term sustainability. The firm is structured as an S corporation.

We custom-build a team of consultants based on each project's type, scale and level of complexity. With a proven network of consulting engineers at our fingertips, our architects have the ability to coalesce a design solution that solves challenging programmatic and functional demands. At Edward Tucker Architects, we thrive on creativity, mutual trust and shared ideas. This approach has translated into lasting relationships and timeless design.





"...for you have brought much more than fine planning and architecture. Thank you for being you, being professional, being creative and always being helpful."

James L. McClelland, CPRP
Director/Secretary (retired)

Greater Huntington Park and Recreation District

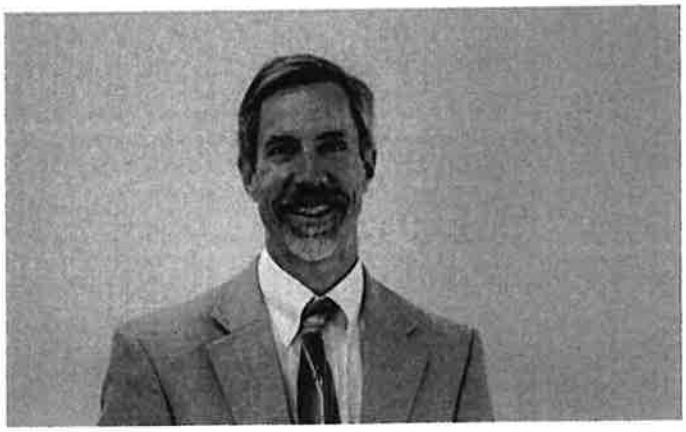
HERITAGE

Edward Tucker Architects, Inc. is fortunate to continue a rich heritage of prominent architects in West Virginia.

Edward's grandfather, Albert F. Tucker, became an architect "the hard way". His rural, east Tennessee education ended in the eighth grade, but he gained experience as a carpenter and later a building supervisor in the early development of the Eastern Kentucky coalfields. He joined the firm of Meanor & Handloser shortly after moving to Huntington in 1917. His association with the firm lasted until 1938, when he obtained licensure and opened his own office. He became known throughout West Virginia and neighboring states where more than 150 congregations of many denominations called upon him to design and supervise construction of their churches and church schools. His contributions were recognized in 1966 when he received an Honorary Doctor of Laws Degree from West Virginia Wesleyan College.

Born in 1878 in Frametown, West Virginia, Levi Johnson Dean studied architecture by completing a Scranton Pennsylvania International Correspondence School course. He began practicing architecture in Huntington in 1910. In 1921, the state architectural registration law was enacted and he became the nineteenth architect to be licensed in the state of West Virginia. His legacy includes some of the area's most beautiful architectural works from the area's "boom" years of the 1920's - churches, county courthouses, residences and many commercial buildings..

Two of Levi Dean's sons, S. Brooks Dean and E. Keith Dean formed Dean and Dean, Inc. Architects in 1956, in an effort to carry on their father's legacy after his death. Over the next 30 years the firm became the premier architectural firm of Huntington, designing many prominent educational and public commissions. In 1996, Edward Tucker purchased the firm from Keith Dean, and the firm's rich history continues to this day.



COMMUNITY INVOLVEMENT

Located in the heart of downtown Huntington, West Virginia, we've chosen to offer our architectural practice as a resource to make a positive impact in our region.

EDWARD TUCKER
FOUNDING PRINCIPAL

- Division Coordinator, Architects Registration Exam Committee, NCARB
- Secretary - West Virginia Board of Architects
- Commissioner and Chair - City of Huntington Planning Commission
- West Virginia Foundation for Architecture - Board Member
- Board of Directors - Huntington Federal Savings Bank
- President, Director - American Institute of Architects (AIA) West Virginia
- Board of Trustees, Chair of Facilities Committee - Huntington Museum of Art

PHOEBE PATTON RANDOLPH
PRINCIPAL

- WV Department of Arts, Culture and History - Cultural Facilities and Capital Resources Grant Panel]
- Marshall University Lewis College of Business - iCenter Advisory Board
- Board Member - Huntington Area Development Council (HADCO)
- President, Director, Scholarship Committee - American Institute of Architects (AIA) West Virginia
- Member - United States Green Building Council, WV Chapter
- Member - West Virginia Abandoned Property Coalition
- Member- Mayor's Council on the Arts, Huntington, WV
- Board Member - KYOVA Interstate Planning Commission & Region II Planning & Development Council

NATE RANDOLPH
PRINCIPAL

- West Virginia History & Archives Commission - Vice Chair - Goveror's Appointment 3rd Term
- State History Preservation Development Grants Panelist 2016, 2017 & 2018
- Huntington Land Reuse Agency - Mayor's Appointment 2018 1st Term
- Huntington Urban Renewal Authority (HURA) - Mayor's Appointment 1st Term
- RCBI for Advanced Flexible Manufacturing TEN50 Business Accelerator - Advisory Board
- Huntington Land Bank - Founder / Past Chair 2008 - 2014
- Huntington City Council - District 4 Representative 2009-2013, Finance & Public Safety Committees

(Listings include current and past positions.)

DESIGN TEAM

We have assembled the most experienced, skilled, and innovative team to meet the challenge of defining the scope of work required to give new life to the Science Building, one of the most heavily-utilized classroom buildings on campus.

The project team that we have assembled provides Marshall University with a deep bench of talent, skills, and experience to apply to this project. ETA has completed numerous projects with every member of this design team. Each consultant was selected based on the strengths and experience that they bring to the team. We believe this team will offer the highest value to to Marshall University working together to evaluate the existing conditions of the Science Building, and evaluate recommendations to address any issues identified, with the goal of positioning the building to function as a state of the art science classroom building over the next 50 years.

Edward Tucker Architects, Inc.	PROJECT LEAD, PROJECT MANAGEMENT ARCHITECTURE, COST ESTIMATING
CMTA	ENGINEERING - MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, SECURITY SYSTEMS, LIGHTING, COST ESTIMATING ENERGY MODELING, COMMISSIONING
Schaefer	STRUCTURAL ENGINEERING, COST ESTIMATING

Edward Tucker Architects, Inc. will work closely with key stakeholders and perform on-site investigation to identify functional, programmatic and performance issues with the existing building and incorporate those into the Feasiblity Study. ETA will also lead the project team, performing project management, coordinating the work of team members, and leading the development of a Building Information Model of the facility.

Our experience with Marshall University with this type of practical evaluation of existing buildings is extensive, including renovating the former Stone & Thomas building into the Visual Arts Center, renovating the Robert Coon Medical Education Building for the School of Pharmacy, addressing water issues at Jenkins Hall, the renovation of East Hall for INTO Program, and others. Our office location, two blocks from Marshall's Campus, offers an unmatched level of value to the University when it comes to responsiveness and cost efficiency, as travel expenses will not be charged to the project.

CMTA is an industry leader in the design of cost effective and energy efficient buildings, and has extensive experience with higher education projects, including recent science building renovations. ETA has completed multiple high-performing buildings with CMTA, including the new Highlawn Elementary for Cabell County Schools and the new Barboursville Library for Cabell County Public Libraries (currently under construction.) CMTA's emphasis on whole building design starts by setting goals for energy usage with the client, proceeding with design options to find the right balance between construction (first) cost and lifetime utility costs.

Schaefer has been ETA's preferred structural engineering consultant for more than 20 years. They provide sound, cost effective structural design while working closely with our architects. Their reputation in the industry is unparalleled.

KEY PERSONNEL

Our team has the capacity to deliver multiple projects, large and small, offering Marshall University a deep bench of talent, skills and collective experience.

Edward Tucker Architects

EDWARD W. TUCKER, FAIA
FOUNDING PRINCIPAL

PHOEBE PATTON RANDOLPH, AIA, LEED AP
PRINCIPAL

NATHAN RANDOLPH, AIA
PRINCIPAL

EDDIE BUMPUS, AIA
STAFF ARCHITECT

CMTA

KEVIN MUSSLER, PE, LEED AP, CXA
VICE PRESIDENT, PARTNER, PRINCIPAL IN CHARGE

CHRISTOPHER REEVES, PE, LEED AP, CEM
PRINCIPAL, PROJECT MANAGER

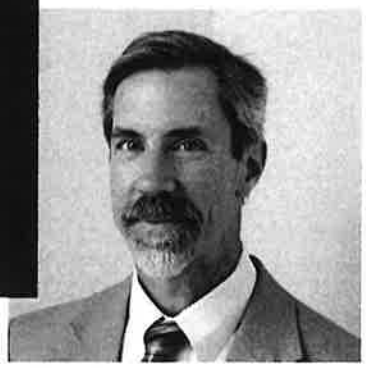
DEVIN CHEEK, PE, LEED AP BC+C
LEAD MECHANICAL ENGINEER

BRADLEY REEVES, PE, LEED AP, CXA
PARTNER, LEAD ELECTRICAL ENGINEER

Schaefer

GREG SLIGER, PE
PRINCIPAL

Edward W. Tucker
FAIA, Principal



Edward W. Tucker, FAIA, is President of Edward Tucker Architects, Inc. Edward manages the firm's overall operations with a focus on professional leadership, design and quality assurance. His expertise includes healthcare, education, research labs/clean rooms, industrial, religious, commercial, historic, and public architecture.

BIOGRAPHY

Ed's experience in healthcare began as Staff Architect in Campus Planning at Vanderbilt University Medical Center from 1990-1995. As Principal of Edward Tucker Architects since 1996, Ed has managed and overseen dozens of inpatient and outpatient healthcare projects in West Virginia for clients including Cabell Huntington Hospital, Marshall Health, Huntington Internal Medicine Group, HealthSouth, Valley Health, and others. He has been heavily involved professionally at the local, state, and national levels, and in 2018 was elevated to the AIA's College of Fellows in recognition of his service to society and the profession.

EDUCATION

University of Tennessee
Knoxville, Tennessee
Bachelor of Architecture, 1982 Magna Cum Laude

Denmark's International Studies
Copenhagen, Denmark
Architecture and Urban Design with an emphasis in Urban Planning and Housing, 1981 Semester Study

REGISTRATIONS

National Council of Architectural Registration Boards (NCARB)
West Virginia, Kentucky and Ohio

PROFESSIONAL AFFILIATIONS

AIA College of Fellows
2018

WV Board of Architects
Secretary, 2014–present

NCARB Architectural Registration Exam (ARE)
Writing Commitee, 2016–present

American Institute of Architects (AIA)
Regional Director, Virginias Region, 2007 - 2010

AIA West Virginia Chapter
President, Director-Past President, VP-President Elect, Director, 1998 - 2005

COMMUNITY INVOLVEMENT

Huntington Federal Savings Bank
Director, 2009 - present

City of Huntington Planning Commission
Chair, 2011 -2020

Building Code Board of Appeals
Chair 1997-1999

Huntington Museum of Art
2011 - 2014, 2018 - present

Rotary Club of Huntington
Director 2003 - 2005, 2016 - 2018

Huntington Symphony Orchestra
Board of Directors 2003 - 2009

Tri-State Council Boy Scouts of America
Executive Board 1999 - 2007

Phoebe Patton Randolph
AIA, LEED AP BD+C

Promoted to Principal in 2014, **Phoebe Patton Randolph** has been responsible for a diverse group of projects including higher education, health care, bicycle and pedestrian trail systems, multi-family housing, industrial food production, library, museum, adaptive re-use and historic preservation.

BIOGRAPHY

Through her work at Edward Tucker Architects, as well as extensive involvement in the community as a volunteer, she has developed strong connections to state and local networks of agencies, organizations and community leaders. Her ability to coalesce information provided by clients and end users into a carefully crafted design solution is complimented by her excellent organizational and project management skills.

EDUCATION

University of Tennessee
Knoxville, Tennessee
Bachelor of Architecture, 2000
- Faculty Design Award – 2000
- School of Architecture Letter of Excellence – 2000

Krakow Polytechnic University
Krakow Poland
Architecture and Urban Design, Spring Semester 1999

Pratt Institute
Brooklyn, New York
Pre-College summer program in Architecture - 1994

REGISTRATIONS

National Council of Architectural Registration Boards
West Virginia

Green Building Certification Institute
LEED AP BD+C

PROFESSIONAL AFFILIATIONS

American Institute of Architects, West Virginia Chapter
President 2016-2018
Scholarship Committee (Current Chair) 2009-Present

United States Green Building Council
West Virginia Chapter

PROJECT EXPERIENCE

Cabell County Public Libraries
A New Library for Barboursville, In Construction

Cabell County Schools
A New Elementary School for Highlawn, 2020

Mountain Health Arena
Convention Center Renovations, Plaza Renovations

Marshall University School of Pharmacy & Graduate Student Housing with Signet Real Estate
Project Architect, School of Pharmacy 2016-2019

Marshall University
Visual Arts Center, Downtown Huntington, WV, Completed 2014
2015 Honor Award for Excellence in Design - AIA West Virginia

School of Pharmacy - VA Campus, Wayne County WV, Completed 2012

Robert C. Byrd Rural Health Clinic - School of Medicine, Chapmanville, WV, Completed 2011
2013Merit Award for Excellence in Design - AIA West Virginia

Erma Ora Byrd Clinical Education & Outreach Center, Huntington, WV Completed 2007

Marshall Health
Teays Valley Medical Center, Scott Depot, WV, Completed 2017

City of Huntington Huntington Innovation Plan,
Fairfield and Highlawn Revitalization Plans, 2016-2017
2017 America's Best Community Competition - First Place

Huntington Museum of Art
Isabelle Gwynn and Robert Daine Gallery Addition, Huntington, WV, Completed 2010
2011 Merit Award for Excellence in Design - AIA West Virginia

COMMUNITY INVOLVEMENT

Huntington Area Development Council, Board Member

Huntington Museum of Art, Board of Trustees, Chair Next Generation Membership Campaign

Nathan Jon Randolph
AIA

Promoted to Principal in 2014, Nathan has been with Edward Tucker Architects since 2000. He has designed and managed numerous projects, continuing client relationships in both the public and private sector. In 2009, he was elected to the City of Huntington City Council to represent the Fourth District. He currently chairs the Huntington Municipal Development Authority and has been instrumental in the City's efforts to clean up and repurpose abandoned properties to revitalize and rebuild neighborhoods.

BIOGRAPHY

Originally from Scott Depot, West Virginia, Nathan was raised in a construction and engineering oriented family. In keeping with this tradition, he chose architecture as a career path, graduating with high honors from the University of Tennessee with a Bachelor of Architecture degree in 1998. By the time that Nathan had completed his education at Tennessee, he had collected every honor and won all school sponsored architecture design competitions offered by UT's College of Architecture and Design.

Nathan's experience includes commercial, industrial, pharmaceutical, health care, collegiate, and residential markets. Nathan resides in Huntington and is a parishioner at Saint Joseph Catholic Church.

EDUCATION

University of Tennessee
Knoxville TN
Bachelor of Architecture, 1998 Cum Laude
- Pella Design Award, 1996
- East Tennessee AIA Integration Award, 1997
- Tau Sigma Delta Bronze Medal Senior Thesis, 1998
- Faculty Design Award Senior Thesis – 1998
- Dean's Letter of Excellence Senior Thesis – 1998

Poland International Study
Krakow, Poland
Architecture and Urban Design, Spring Semester 1997

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

American Institute of Architects
West Virginia Chapter

National Council of Architectural Registration Boards
West Virginia

PROJECT EXPERIENCE

Bluefield State College Master Plan, Bluefield, WV

Collegiate Housing of Bluefield, Bluefield, WV
Heritage Village at Bluefield State College

Marshall University
Pharmacy School & Graduate Student Housing
Huntington WV

WV State University
F. Ray Power Building Renovations, Institute, WV

Sodexo
Marshall University Student Center & Twin Towers Dining Renovations

Marshall University INTO - East Hall Renovations
Huntington WV

Alpha Running Right Learning Academy
(Underground Mine Safety) Boone County WV

Marshall University Forensic Science Center Phases 1-9
Huntington WV
2010 Honor Award for Excellence in Design - AIA West Virginia

Valley Health Systems, Inc.
Integrated Clinical Center Huntington WV

Saint Joseph Catholic School
New Elementary & Middle School, Huntington WV

COMMUNITY INVOLVEMENT

Huntington Land Reuse Agency
Mayor's Appointment 2018 1st Term

Huntington Urban Renewal Authority (HURA)
Mayor's Appointment 1st Term

West Virginia History & Archives Commission
Vice Chair, Governor's Appointment 3rd Term

State History Preservation Development Grants
Panelist 2016, 2017 & 2018

Huntington City Council District 4 Representative 2009-2013
Finance and Public Safety Committees

St. Joseph Central Catholic Church High School
Advisory Board Member 2006-2010

George (Eddie) Bumpus
AIA

George E. (Eddie) Bumpus started his career as a draftsman with Holderby Engineering, Inc. in St. Albans, WV. While working full time learning Plumbing/Mechanical/Electrical engineering design, Eddie attended West Virginia State University at night for fifteen years where he earned an Associate of Applied Science degree in Construction Management and a Bachelor of Science degree in Architectural Technology. After working in engineering for more than twenty years, Eddie decided to fulfill his lifelong dream of becoming an architect and started his path to licensure.

BIOGRAPHY

Eddie received his architectural registration in 2003 and passed the LEED AP test in 2009 while working on the State of West Virginia's first LEED Gold building design. Eddie's participation and dedication to the design of this project helped it receive a merit award in Sustainable design from the West Virginia Society of Architects.

Eddie's experience includes commercial, industrial, primary and secondary education, religious, government, public housing, retail, higher education and residential projects. For the past fifteen years Eddie has been heavily involved with lighting design of commercial buildings.

EDUCATION

West Virginia State University
Institute, WV
Associate of Applied Science, Construction Management, 1989
Bachelor of Science, Architectural Technology, 1993

REGISTRATIONS

Registered Architect - Arizona (inactive), West Virginia

Green Building Certification Institute, LEED AP

PROFESSIONAL AFFILIATIONS

American Institute of Architects, West Virginia Chapter

Illuminating Engineering Society (IES) Inactive

PROJECT EXPERIENCE

Cabell County Public Libraries
A New Library for Barboursville, In Construction

Cabell County Schools
A New Elementary School for Highlawn, 2020

Mountain Health Arena
Convention Center Renovations, Plaza Renovations

Marshall University School of Pharmacy & Graduate Student Housing with Signet Real Estate
Project Architect, School of Pharmacy 2016-2019

Raceland-Worthington Independent School District
New Raceland Middle School

Marshall University Biotechnology Center - Lab Renovations, Huntington, WV

Marshall University, Herdzone Stadium Team Store
Huntington,WV

PROJECT EXPERIENCE AT OTHER FIRMS

Thomas Patrick Maroney Unity Apartments, Charleston, WV

Shrewsbury Village Apartments, Charleston, WV

Wells Home Furnishings, Morgantown, WV

Massey Coal Corporate Headquarters, Julian, WV

ICG Coal Corporate Headquarters, Teays Valley, WV

Spring Mills Primary School, Spring Mills, WV

Winfield Middle School, Winfield, WV

Winfield Elementary School, Winfield, WV

War Pre K-8 School, War, WV

Jefferson County Welcome Center, Harpers Ferry, WV

West Virginia Department of Health and Human Resources, Charleston, WV

Kroger Company, Winston Salem, NC

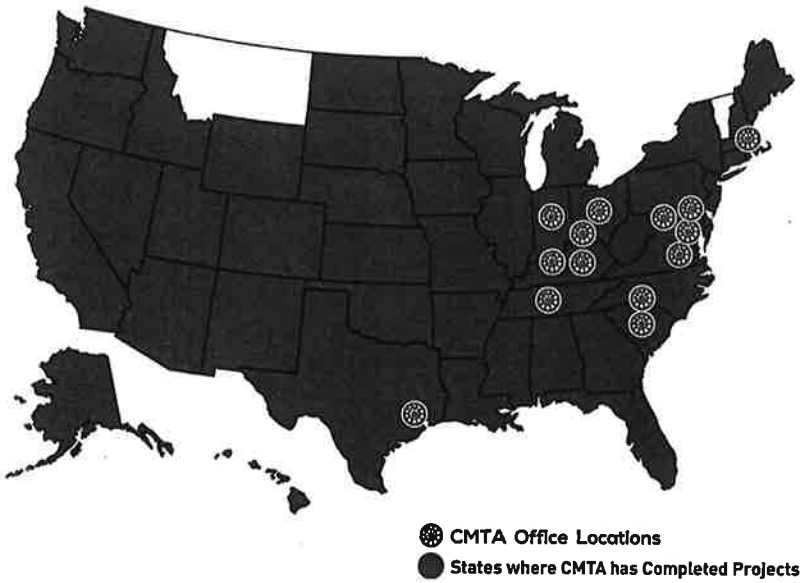
About CMTA

CMTA consistently applies creative thinking and scientific expertise to improve the built environment for everyone. Over the past 50 years, we have been working to break away from traditional approaches to consulting engineering to envision and deliver high-performance buildings that succeed. Our dynamic engineers take a holistic, immersive approach to balance first costs, sustainability goals, life cycle costs and healthy building solutions. To ensure success, we leverage thought leaders from all of our offices, as well as track/study our buildings after occupancy to capture energy and air quality metrics. We define our innovative approach to engineering as ... ***Building Science Leadership.***

Our consulting engineering expertise includes the following services:

- Mechanical Engineering
- Electrical Engineering
- Plumbing Engineering
- Fire Protection Engineering
- Zero Energy and Renewable Engineering
- Communications and Audio Visual Design
- Technology Infrastructure Design
- Security System Design
- Energy Modeling
- Lighting Design
- Geothermal Engineering
- Construction Administration
- Commissioning Services
- LEED Consulting
- WELL Building Consulting and Certification
- Energy Star Certification
- Sustainability Consulting

CMTA has over 425 employees in 16 offices located across the nation.



By the Numbers

- Licensed in 48 States, D.C., Puerto Rico, and Ontario, Canada
- 124 PEs
- 7 RCDDs
- 6 Certified GeoExchange Designers
- 19 Certified Energy Managers
- 19 Commissioning Agents
- 96 LEED APs
- 14 WELL APs

Rankings

CMTA is a top 25 MEP firm and top 20 Commissioning firm nationally as ranked by Consulting-Specifying Engineer magazine in 2020. The firm was listed in the ENR Top 500 for 2020 and named to the Zweig Group's 2020 Hot Firms List recognizing the fastest growing AE firms in North America.

2020 ENR TOP 500

MEP GIANTS 2020

Commissioning GIANTS 2020

Higher Education Expertise

Colleges and universities chose CMTA because we recognize that a building does more than just house its occupants. Our buildings enhance the occupants' comfort and health through our attention to air quality, temperature, natural daylighting and WELL principles. We accomplish this and engineer some of the most energy efficient buildings in the country.

CMTA has brought this approach to ***more than 100 higher education clients*** in 17 states and the District of Columbia. This experience includes master planning, campus security assessments, fire system upgrades, HVAC replacements, major renovations and new ground-up facilities such as the following:

- Classroom Buildings
- Research Labs
- Teaching Labs
- Clean Rooms
- Vivariums
- Residence Halls
- Libraries
- Data Centers
- Student Centers
- Student Activity Centers
- Dining
- Athletics
- Health Care Facilities
- Medical and Dental Schools
- Nursing Programs
- Physical Therapy
- Allied Health Professions
- Bookstores/Retail
- Black Box Theaters
- Performance Spaces
- Historic Renovations
- Campuswide Infrastructure
- High Voltage Distribution
- Ice Arenas

Experience Highlights

- CMTA is the National Leader in Sustainable High Performance Design
- CMTA's Higher Education portfolio includes the first WELL Gold Certified University Laboratory in the country, operating under 150 EUI at Western Kentucky University
- CMTA engineered a Zero Energy Ready, Living Building Challenge Petal Certified residence hall at Berea College
- Security AV / IT expertise with University of Kentucky recognized as a National Model for Campus Safety and Security

Recent Higher Education Clients

Sustainable Design

In addition to acting as engineer of record for major projects, CMTA has a long history of engaging with design teams as a Sustainability Consultant. In this role our most experienced staff act as mentors and facilitators to help a design team and owner set sustainability goals and identify the key steps to be taken during design and construction to ensure that the goals are met.

We have lead hundreds of sustainability charrettes for all types of projects. During these events held as early in the design process as possible we gather all the project stake holders: designers, engineers, owners, facility managers, and end-users. Our experienced staff lead the group through the exercise of collaborating to set sustainability goals for the project including; energy reduction, occupant health and wellness, building certifications such as LEED, WELL, or Energy Star. Based on the goals we then help to develop a road map for achieving the best project outcomes while controlling costs and schedules. The practical experience that our team brings allows them to identify cost effective opportunities to promote sustainability and energy saving measures that may not be apparent to the stakeholders. Our team works to challenge both designers and owners to achieve exceptional results within the project budget and timeline. We are experts at finding opportunities for transferring costs within the project budget to maximize the initial investment and the long-term savings.

Achieving Certifications

Although third-party building certifications are not a goal for every project or owner, our success in guiding projects through the process of achieving certifications is another way we can quantify our effectiveness as a leader in sustainability.

- 146 LEED Projects: 20 Platinum, 56 Gold (includes 1 Zero Energy Certified project), 53 Silver, 17 Certified and 10 Registered
- 11 WELL Projects: 3 Gold, 3 Silver, 5 Certified
- 191 ENERGY STAR projects, 36 with perfect scores of 100

Cost: $13,146,000
Size: 42,000 SF
Completed: 2013
Construction Type: New Facility
EUI: 34
PV: 50 kw
Certifications:

- 2016 ASHRAE National Technology Award - First Place
- LBC Petal Certification

Berea College - Deep Green Residence Hall
Berea, Kentucky

"We found synergies and cost efficiencies to achieve the highest LEED score."

Richard Dodd, Capital Project Manager

127
AIA 2030 Annual Energy Use Goal

38
Measured Energy Use

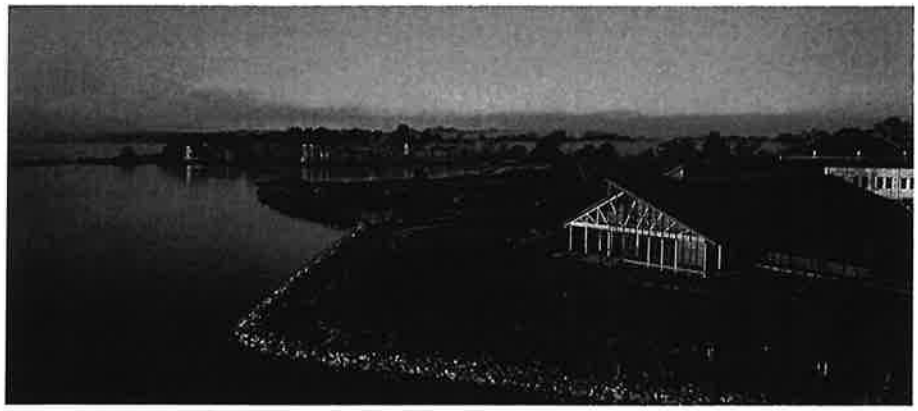
Renewable Design

Photovoltaic Systems

The photovoltaic industry continues to evolve rapidly meaning that whatever worked on the last project might be outdated and expensive on the next. CMTA's solar design experts are on the forefront of many of these trends to ensure that our clients are able to leverage the best available photovoltaic technology. We have successfully implemented solar arrays on hundreds of high-performance projects. This process starts at the conceptual design level and involves consideration of building massing, orientation, self-shading, roof obstacles, mounting techniques and regional factors in order to ensure that the project's solar potential is optimized. Our goal for your facilities would be to maximize solar generation in a way that minimizes or eliminates architectural impact.

The Washington College Semans Griswold Environmental Hall located in Chestertown, Maryland achieves zero energy through a combination of reduced EUI and a rooftop photovoltaic system.

University of Louisville - Belknapp Center
Louisville, Kentucky



Washington College - Semans Griswold Environmental Hall
Chestertown, Maryland

Continuing their drive to become a national leader in undergraduate environmental and sustainability studies, Washington College in Chestertown, Maryland is opening an 11,300 square foot building to provide faculty offices, teaching, and lab space for their growing environmental academic programs. The building is located on a brownfield site, previously purchased and remediated by the college, directly on the Chester River that allows students the ability to immediately collect, observe and process samples associated with their coursework.

Cost: $4,000,000
Size: 10,000 SF
Completed: 2013
Construction Type: New Facility
EUI: 40
PV: 110 kw
Certifications:

- LEED Platinum
- Zero Energy
- LBC Petal Certification - targeted

Focus on the Occupants - The WELL Standard

Designing for Occupant Health and Wellness

We spend most of our lives in buildings and it is important that architects and engineers understand how the building affects the health and wellness of the occupants. This interaction between the building and the occupants is especially critical in health care where the environment must promote healing and wellness.

CMTA's buildings are moving beyond energy efficiency and sustainability to lead the industry's focus on improving occupant health. Our team has a vast understanding of the building performance metrics and design strategies that improve the built environment for occupant comfort and wellness. This knowledge allows us to be successful in incorporating strategies that improve human health and focusing on the wellbeing of the occupant while still maintaining budget and energy efficiency goals.

The International WELL Building Institute (IWBI), a public benefit corporation, is leading the movement to promote health and wellness in buildings. Their WELL Building Certification is the leading tool for advancing health and wellbeing in buildings globally. CMTA has embraced this new certification and now has three buildings targeted to WELL Building Certification including our newest office building in Louisville, Kentucky. In addition, two of our staff engineers are WELL Accredited Professionals.

Walking the Talk

We take great pride in being thought leaders, paving the way for others to follow. We accept this challenge with enthusiasm and responsibility. CMTA is a firm that has built our reputation on research and data-driven design. ***At WKU's Ogden College Hall, we went beyond high-performance design techniques to engineer a building showcasing health and wellness strategies, ultimately achieving the WELL v2 Gold Certification.***

We designed our own corporate office to achieve WELL Gold and operate Zero Energy. ***In 2020, the CMTA Energy Solutions Corporate Office became the first WELL Gold Certified, Zero Energy Building in the country.***

The International WELL Building Institute (IWBI), a public benefit corporation, is leading the movement to promote health and wellness in buildings. Their WELL Building Certification is the leading tool for advancing health and wellbeing in buildings globally.

WKU Ogden College Hall, Science & Research Center
WELL Gold, LEED Gold - Bowling Green, Kentucky

CMTA Energy Solutions Corporate Office Louisville, Kentucky

Chris Reeves PE, LEED AP, CEM

Partner

ROLE: Principal-in-Charge

Profile

Mr. Reeves joined CMTA in 2006 and became a partner in 2011. As a project manager and mechanical engineer in CMTA's Lexington office, he has applied his mechanical knowledge to a broad spectrum of projects. Mr. Reeves also serves as the Lexington office mechanical staff coordinator to ensure projects are properly staffed and managed to produce a successful product for the owner.

Past project experience includes education, laboratories, health care and institutional facilities, among others. He has become a valuable asset to CMTA due to his ability to design top quality mechanical systems and exceed all expectations of the owner.

Role

As the Principal-in-Charge, Mr. Reeves will coordinate with the Owner and design-build team to meet the expectations of this project and ensure energy efficient design principles are incorporated into the MEP systems.

Education

Bachelor of Science, Mechanical Engineering

University of Kentucky, 2001

Registrations/Certifications

- Licensed Professional Engineer - Kentucky (#25045)
- LEED (Leadership in Energy and Environmental Design) Accredited Professional
- Certified Energy Manager by AEE
- Certified Variable Refrigerant Flow Designer

Years Experience: 20

Years with Firm: 15

CMTA

Related Projects

University of Kentucky
Lexington, Kentucky

Jacobs Science Building
- LEED Silver
- New Facility with Laboratories, Science Classrooms, Offices

Center for Applied Energy Research Lab Building
- LEED Gold
- Includes Wet and Dry Labs

Center for Applied Energy Research Fischer-Tropsch Facility

Northern Kentucky University
Highland Heights, Kentucky

Health Innovation Center
- New Health Science and Applied Research Facility
- Includes Science Labs and Vivarium

Transylvania University
Lexington, Kentucky

Science Building
- Renovation

Morehead State University
Morehead, Kentucky

Space Science & Technology Center

University of Cincinnati
Cincinnati, Ohio

College of Engineering Master Plan

Bradley Reeves PE, LEED AP, CXA

ROLE: Project Manager / Electrical Engineer

Profile

Mr. Reeves joined CMTA in July 2006 and has over 25 years of electrical engineering design experience. His experience includes educational, judicial and detention, equine, multifamily housing and health care facilities. He is very familiar with IESNA standards as well as the practices associated with high performance sustainable lighting designs as described in the USGBC.

Role

As Project Manager, Mr. Reeves will coordinate with the design team to meet the expectations of the project. He will ensure that energy efficient design principles are incorporated into the MEP systems. As the electrical engineer Mr. Reeves will be responsible for the design and specification of mechanical systems for this project. He will be responsible for the production of plans and specifications for the electrical systems to ensure the design developed by the team will be executed properly.

Education

Bachelor of Science, Electrical Engineering

University of Kentucky, 1993

Registrations/Certifications

- Mr. Reeves is a Licensed Professional Engineer (PE) in the State of Kentucky (#20984)
- LEED (Leadership in Energy and Environmental Design) Accredited Professional
- Certified Commissioning Agent by AABC

Years Experience: 28

Years with Firm: 15

Related Projects

Kentucky Community and Technical College System

Maysville CTC

- Licking Valley Addition

KCTCS Guaranteed Energy Savings Performance Contract

- Multi-phase, multi-campus renovation/energy upgrades
- Three phases of projects completed for 8 Colleges with 14 Campuses
- Construction begun on next phase for 2 Colleges
- $418,000 in savings identified with minimal to zero costs

University of Kentucky

Lexington, Kentucky

Chemistry/Physics Building

- Multi-Phased Renovation of Science Classroom and Lab Building

Northern Kentucky University

Highland Heights, Kentucky

Health Innovation Center

- New Health Science and Applied Research Facility
- Includes Science Labs and Vivarium

Eastern Kentucky University

Richmond, Kentucky

Science Building

- Commissioning

Locust Trace AgriScience Campus

Lexington, Kentucky

- Zero Energy Campus
- Agriculture Research

CMTA

Devin Cheek PE, LEED AP BD+C

ROLE: Mechanical Engineer

Profile

Mr. Cheek joined CMTA in 2012 after previously working part time for five years while attending The University of Kentucky. His responsibilities have covered all aspects of mechanical design for health care, education, commercial, and military. He has designed a variety of HVAC, chilled and hot water systems, and plumbing systems for use in a multitude of facilities ranging from hospitals, education, to commercial office buildings and banks.

Mr. Cheek's experience includes, but is not limited to, designing, laboratories, vocational and agriculture shops, classrooms, gymnasiums, auditoriums, conference rooms, and executive suites.

Role

As a Mechanical Engineer, he will coordinate all mechanical design requirements with design team and end-user personnel to ensure all systems meet the standards and requirements of the specific facility.

Education

Bachelor of Science, Mechanical Engineering

University of Kentucky, 2012

Registrations/Certifications

- Licensed Professional Engineer (PE) - Kentucky (#32482)
- LEED AP BD+C (Leadership in Energy and Environmental Design Accredited Professional Building Design + Construction)

Years Experience: 14

Years with Firm: 14

Related Projects

University of Kentucky
Lexington, Kentucky

Jacobs Science Building
- LEED Silver New Facility with Laboratories, Science Classrooms, Offices

Center for Applied Energy Research Lab Building
- LEED Gold
- Includes Wet and Dry Labs

Transylvania University
Lexington, Kentucky

Science Center Renovation

Morehead State University
Morehead, Kentucky

Space Science & Technology Center
- Includes Laboratories

Center for Health Education & Research
- Includes Laboratories, Classrooms

Locust Trace AgriScience Campus
Lexington, Kentucky
- Zero Energy Campus
- Agriculture Research

CMTA

Check out our projects, visit **schaefer**-inc.com

schæfer

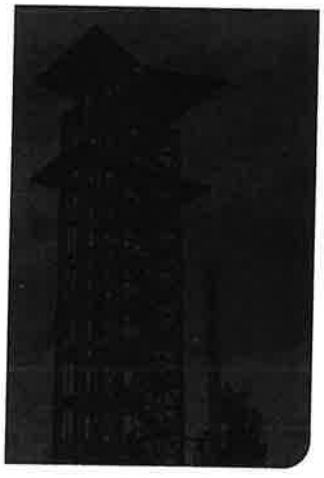
We are open-minded in our approach + thinking — thought leaders with diverse experience.

Our clients partner with us for our collaborative structural engineering services: planning, design, inspection, investigation.

- > 82 team members
- > Licensed in EVERY state
- > 15 years into full implementation of BIM
- > Founded in 1976, offices in Cincinnati + Columbus, Ohio, and Phoenix, Arizona

We believe in collaborative teams — partnership with owners, architects, developers, and construction team members.

With a creative approach supported by an understanding of market trends, we can design adaptive structures that meet owners' needs. Our people enhance communities through smart, innovative structures.



Cincinnati	513.542.3300	537 East Pete Rose Way, Suite 400, Cincinnati, Ohio 45202
Columbus	614.428.4400	937 West 3rd Avenue, Columbus, Ohio 43212
Phoenix	602.362.1100	300 West Clarendon Avenue, Suite 141, Phoenix, Arizona 85013

PROJECT TEAM

schaefer

Principal | PE

GREG SLIGER

Experience

As a firm principal, Greg manages projects and oversees the work of project engineers. This allows him to work on projects of varying sizes, complexity and materials. He's designed for new builds and renovations, and investigated existing buildings on Marshall University's campus, including several projects within the Science Building. His knowledge of the campus and the MU team is a benefit to the design team.

S4.00 B

Experience Highlights

- > Marshall University Old Main Review + Repair
- > Marshall University Corbly Hall Review + Repair
- > Marshall University Visual Arts Center Repurpose + Renovation
- > Marshall University Arthur Weisberg Family Applied Engineering Complex
- > Marshall University Robert C. Byrd Biotechnology Science Center

Education and Registrations

Master of Science Civil Engineering University of Cincinnati, 1980
Bachelor of Science Civil Engineering University of Cincinnati, 1979

PE Registered: West Virginia, Utah, Kentucky, Ohio, New Hampshire, North Dakota, Oklahoma, Wisconsin, Oregon

Associations

American Society of Civil Engineers, American Institute of Architects West Virginia, American Concrete Institute, Concrete Reinforcing Steel Institute, Structural Engineers Association of Ohio

Working with Ed Tucker, Nate Randolph and Phoebe Patton Randoph always feels seamless — like we have an extension of our own staff. They care about Marshall, they care about Huntington, and they care about this project.

Dr. Jerome Gilbert
President
Marshall University

Edward Tucker Architects has been an integral part of Huntington's transformation during the past several years. For example, this firm's expertise has been key to progress that has been made with Huntington's Fairfield Innovation Corridor. This is a dynamic project that has required developing plans with input from a broad range of stakeholders.

Steven T. Williams
Mayor, The City of Huntington

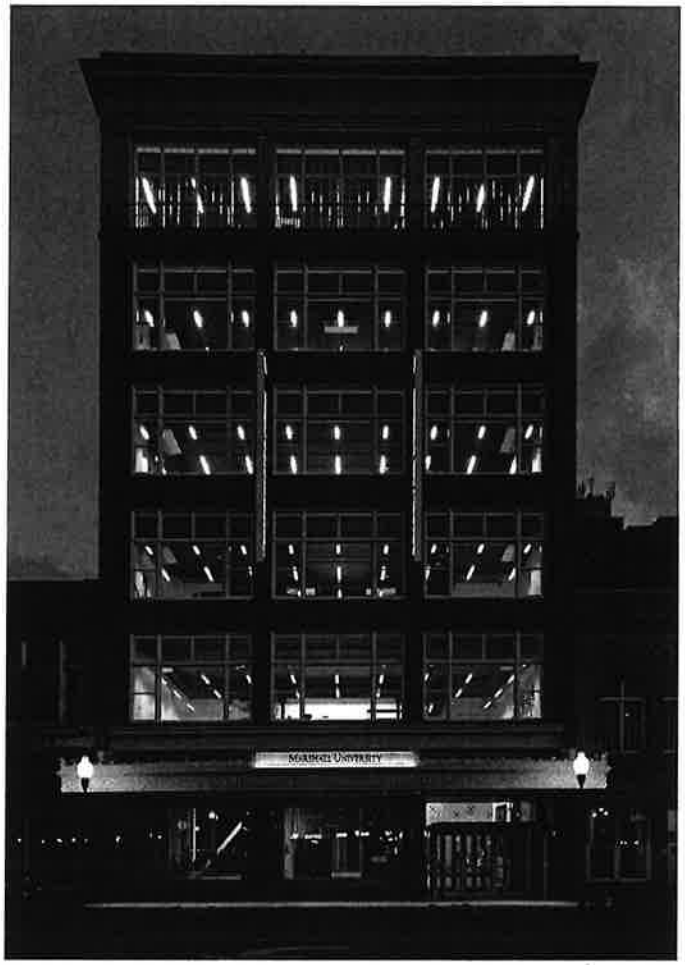
...exactly what we reviewed and defines our consensus.

It is a real pleasure to work with you and the team at Edward Tucker Architects. Thank you for your knowledge, professionalism, timely actions and pleasant personality that create a positive work environment.

Dr. Kevin W. Yingling, R.Ph., M.D.
Founding Dean
Marshall University School of Pharmacy

HIGHER EDUCATION
ADAPTIVE REUSE

Marshall University Visual Arts Center



Huntington, West Virginia
2015 AIA WV Honor Award for Achievement in Architecture

This six-story, one hundred and thirteen year-old structure sat vacant for nearly 20 years before Marshall University purchased it to transform into a new home for the School of Art & Design, their first significant expansion into the downtown. The project began with an in-depth existing conditions survey to determine the best approach to adapt the existing building to a new higher education use, with technical systems to accommodate the needs of various visual arts programs such as a full photography darkroom, screenprinting, and printmaking.

The design concept was to create an open, modern feeling within the historic structure. Lighting and acoustics were carefully addressed in the design. Conduit, piping and lighting were organized to minimize visual clutter, and a warm gray color unifies the ceiling plane. A unique color scheme on each level, reflected in signage and furniture selections, serves as an orienting feature from floor to floor. The result is a hip, sophisticated space with just the right mix of historic elements and modern design.

ACADEMIC / LABORATORY

Marshall University Stephen J. Kopp Hall

New higher education classroom and laboratory building.
Project Size: 50,000 sf Project Cost: $12,492,109
Design: May, 2018 - March, 2019
Construction: March, 2019 - Oct., 2020
Design Team: Perkins + Will, Scheeser Buckley Mayfield, Schaefer, Terradon
Reference: Layton Cottrill, Marshall University (304) 696-6444

Huntington, West Virginia
In collaboration with Signet Real Estate & Perkins + Will

Marshall University chose to relocate its growing School of Pharmacy to its health science campus in Huntington, while also developing graduate housing. The creation of what is essentially a living-learning community for students is a valuable recruiting and retention tool for the university.

The 50,000 square foot school of pharmacy program includes a variety of learning environments, including active learning classrooms, simulation learning labs, administrative offices, and research space. The classrooms were designed with moveable furniture, demountable walls and built-in technology for maximum flexibility. The research labs, previously siloed, are now co-located into one large space to encourage research partnerships.

Quiet study pockets are located at various instances in the building. Some smaller learning spaces were designed to multi-function as study rooms after school hours – maximizing efficiency while providing for all needs in the building. On all floors, the learning spaces and administrative spaces are organized along a primary causeway with writable surfaces and seating to maximize collaboration and engagement between faculty, students and staff.

HEALTHCARE
RENOVATION

Marshall Health
Teays Valley

Scott Depot, West Virginia
Construction Completed: 2017
Construction Cost: $5,380,923
Square Footage: 51,000

Reference Contact: Beth Hammers, Executive Director
Marshall Health (304) 691-1712

Marshall Health renovated an existing office building to expand their services to the Teays Valley community in 2017.

The design team was challenged to convert an existing 51,000 sf office building into an outpatient medical facility. The program included a central lab and x-ray suite, along with general adult medicine, pediatrics, a women's center, medical and surgical specialties, cardiology, neurology, endoscopy, and a sleep lab. Shared waiting areas and registration were provided on each floor, and a cafe was provided on the ground level.

The new use for the existing building also necessitated an addition with two elevators, and a patient drop-off canopy.

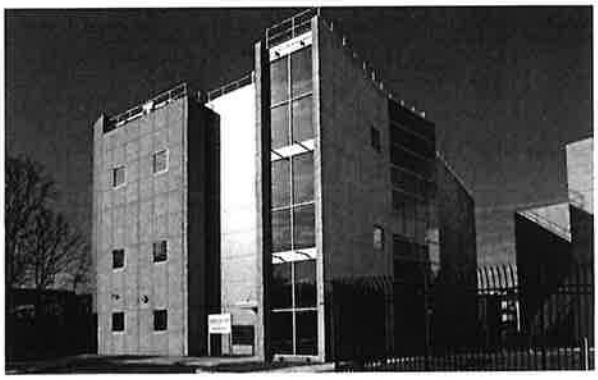
The design team coordinated all aspects of the project, from space planning and construction documents to furniture and finish selections.

The project was delivered for approximately $105 per square foot.

HIGHER EDUCATION
HEALTHCARE

Marshall University Forensic Science Center

Huntington, West Virginia
2010 AIA WV Honor Award for Excellence in Architecture



In 1998 Marshall University commissioned Edward Tucker Architects, Inc. to master plan and design facilities for their growing Forensic Science program.

Phase I was completed in 1999 and the program located in the renovated locker room building at the north end of Fairfield Stadium, Marshall's former football stadium. Phase II was completed in 2004 with a two-story addition to the existing building providing computer forensics, digital evidence lab and administrative spaces. Phase III was completed in 2009 with a three-story addition providing a biotech business incubator, forensic science instruction and research laboratory spaces. The architects coordinated all aspects of the project including lab and equipment design. The completed facility is approximately 32,000 square feet.

HIGHER EDUCATION
HEALTHCARE

Marshall University School of Pharmacy

Huntington, West Virginia

Marshall University's new School of Pharmacy opened in August 2012.

The challenge was to create a state-of-the-art pharmacy program within an existing 1980's era classroom building. The Architectural team provided facility assessment, programming and full design services including interior design. The result is an extensive transformation of the first two floors of the four-floor, 69,000 sf building. The lack of existing windows demanded a new interior environment with a sense of openness in large, flowing spaces that are warm and welcoming. Floors are organized with the primary social/community areas at the heart of the plan. Glass interior walls provide transparency from the public spaces into classrooms, labs, and skills areas to enhance the sense of community. Strategic use of technology throughout the building creates connectivity and community for students and faculty. Team-teaching areas, classrooms and common areas all have technology-embedded walls to support the School of Pharmacy's active learning educational model.

UNIVERSITY OF KENTUCKY

Renovation
Chemistry - Physics Building
Lexington, Kentucky

OWNER
University of Kentucky
Lexington, Kentucky

COST
$50,000,000

CONTACT
Sandy Redmon
(859) 218-3115

COMPLETED
Est. 2022

This project was initiated out of a campus revitalization fund and sought to transform an existing 244,000 SF laboratory building (1960's vintage) to a research and teaching facility that will meet the needs of the physics and chemistry programs of the university well into the future. Due to funding restrictions the project will be completed in multiple phases over a ten-year period to renovate this four-story building.

The first phase of the project is a $50 million renovation to completely replace the façade of the building and renovate the entire third floor and mechanical penthouse above. Two new atriums will be constructed to provide more common space for gathering between classes. The first phase of the design also included developing a master plan for the facility to accommodate future phases of renovation.

The existing building is served by a mixture of dual duct air handling units (serving non-lab spaces) and 100% outside air units (for lab spaces). The first phase of the project will replace the air handling units that serve the third floor and re-habilitate existing rooftop 100% OA units which serve existing floors.

The non-lab spaces will be served by a standard VAV air handling unit with hot water reheat to provide independent zone temperature control for each zone. Labs will also utilize venturi airflow control valves to maintain University Environmental Health and safety standards for fume hood face velocities and room pressurization.

The design team completed daylight and energy modeling analysis to assist the client to limit glare and energy use from curtainwall assemblies. By giving real-time feedback the design team was able to respond to reduce glare and energy impacts to the building.

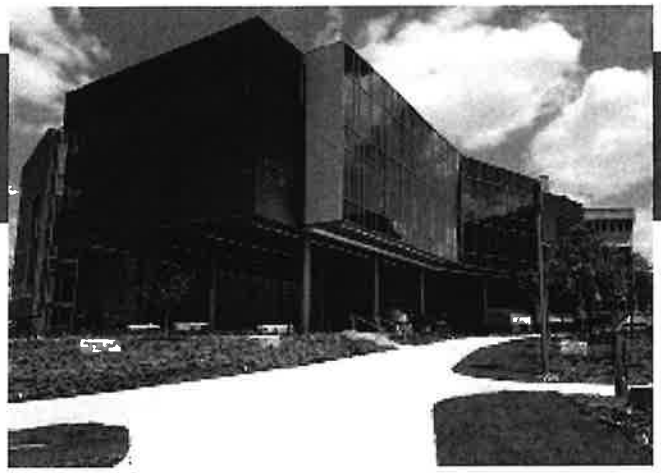
A key design challenge was the complete replacement of the existing fume hood exhaust system. The project team provided a phased solution which replaced the entire centralized fume hood exhaust system while allowing the operation of the ground thru 2nd floors to continue throughout construction. This replacement also was designed to accommodate the needs of the renovation of floors below with minimal impact to the completed third floor and penthouse.

The reverse osmosis lab water system will be replaced and relocated to a ground floor rather than its current location in the penthouse. The labs will each include centralized vacuum, compressed air, and natural gas where needed.

Since the building was constructed in the 1960's, the existing communications and network closets are small and inadequate for the current building demands. The project will bring redundant fiber feeds to the building and construct new communications closets that are planned to stack from floor to floor for improved distribution.

All existing lighting will be replaced with new LED fixtures designed to the campus standards for light levels.

CMTA



NORTHERN KENTUCKY UNIVERSITY

New Facility
Health Innovation Center
Highland Heights, Kentucky

OWNER
Northern Kentucky University
Highland Heights, Kentucky

COST
$97,000,000

CONTACT
Mary Paula Schuh
Senior Director
(859) 572-5122

COMPLETED
2018

Northern Kentucky University embarked on an ambitious addition/renovation project at Founders Hall, NKU's second academic building totaling 210,000 SF GSF. The addition totals 108,142 GSF. This building houses a comprehensive health science education and applied research facility located in the core of NKU's campus.

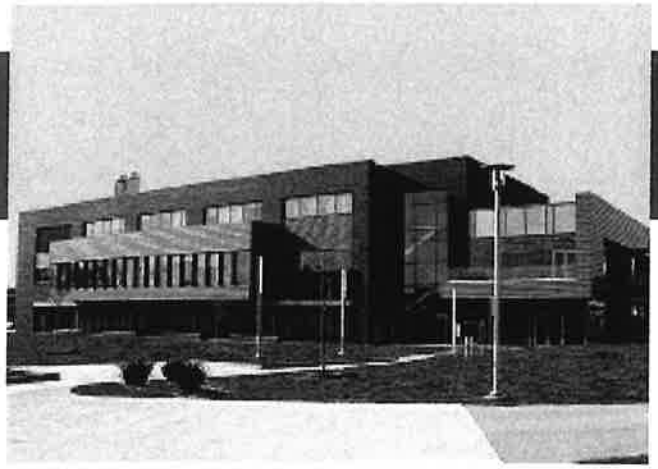
Academic programs located in the building include health professions, psychological sciences and health informatics. Extensive laboratory space is featured in the building to accommodate simulation suites, a 11,090 SF vivarium (BSL2) and animal testing lab, data analytics and modeling spaces, and labs for research in areas such as cognitive neuroscience, addiction sciences, kinesiology, aging, and mobile/telehealth. Classroom and teamwork spaces emphasize collaboration, technology, and transdisciplinarity.

The building mechanical system comprises multiple technologies to complement the various building occupancy groups and the overall campus. Campus chilled water and steam are the primary sources for heating and cooling. Geothermal water source heat pumps are utilized in classroom spaces to lessen the building's impact on the campus central plant. The vivarium space employs a variable air volume system with laboratory demand control ventilation. The addition utilizes chilled beam to allow for the steel structure building to be added onto the existing concrete structure while maintaining desired ceiling heights and matching the floor to floor heights of Founders Hall.

The lighting throughout the building is all LED with an advanced lighting control system that is incorporated into a campus wide system. The building electrical service is connected to the campus 12,470 volt distribution network and provides 480V/277V to the building. An indoor generator provides onsite back-up power for emergency lighting and all operation of the vivarium to prevent loss of research.

In order to further reduce the energy consumption of the facility, a heat recovery chiller allows waste heat to be transferred to the heating system rather than dissipating it to the outdoors. Energy recovery wheels are also utilized in the dedicated outside air units that serve the chilled beam and water source heat pump systems.

CMTA



BLUEGRASS COMMUNITY AND TECHNICAL COLLEGE

New Facility
Science Education Center
LEED Silver
Lexington, Kentucky

OWNER
Kentucky Community and Technical College System
Versailles, Kentucky

COST
$24,000,000

CONTACT
Wayne Cowan
Facility Planning & Construction
(859) 246-6858

COMPLETED
2018

This project involved the design of a 64,000 square foot Science Education Center on the Newtown Campus of Bluegrass Community and Technical College for multiple degree programs including biotechnology and environmental sciences. It was part of Kentucky Community & Technical College's BuildSmart Initiative.

Housed in the facility are laboratory spaces, science classrooms, administrative/faculty offices and other auxiliary spaces. Student support spaces include areas for quiet study, interaction zones and student lounges.

The LEED® Silver design includes many sustainable design features including low emissivity glazing, light shelves, daylighting, energy/water conservation measures throughout the building and use of regional materials.

The mechanical system features a heat recovery chiller allowing for the simultaneous production of chilled water and hot water. Air change reductions with room occupancy sensors are located in laboratory spaces. Demand control ventilation utilizes occupancy sensors in classroom and administrative spaces.

The electrical system includes new site utility feeds, including electric and telecommunication. The site also includes a new parking lot and pedestrian walkway with site lighting and security. The building lighting system utilizes energy efficient LED fixtures throughout with flexible dimming control and daylight harvesting. A new power distribution system throughout the building provides coordination with laboratory casework and equipment. Stacked telecommunication risers in the building have state of the art network connectivity and wireless access.

The design team also developed a plan for the relocation of programs currently housed in the Cooper Drive Campus of BCTC to the Newtown Campus.

CMTA

UNIVERSITY OF CINCINNATI

Health Sciences
LEED Gold
ENR - 2020 Midwest Awards, Award of Merit
AIA - 2020 Design Excellence Award
Cincinnati, Ohio

OWNER
University of Cincinnati
Cincinnati, Ohio

COST
$47,850,000

CONTACT
Dale Magoteaux
(513) 556-6699

COMPLETED
2018

This $47,850,000 project is a new mid-rise multi-story building totaling approximately 110,000 square feet that will house administrative office space, faculty offices, classrooms, interdisciplinary space and become the new home of the College of Allied Health Sciences.

The Health Sciences building is located on the UC Uptown East Campus. Wherry Hall and the Radiation Safety building were demolished to prepare the site for the new building. The demolition of these two buildings required rework of the existing underground 12,470 primary electrical loop. New underground duct banks, tunnel modifications, manholes and medium voltage feeders were rerouted around the foot print of the new building with special attention on the phasing of the work at the HV utility disconnect switchgear. This rework at the HV switch required the design team to develop electrical contingency plans in case the 12470 loop was damaged during this work. This work was also coordinated with the stakeholders in buildings downstream on the electrical HV loop so that systems could be shut off accordingly to minimize damage due to inrush or abrupt power loss.

The new building work required a new 15kV switch to be installed in an existing S&C switchgear to the north of the new building. From there a new 15kV ductbank and man hole system was designed and installed to provide service to a new 12470V to 480/277V unit substation. The size of the primary compartment was 200A with a secondary compartment sized at 2000A fed through a 1500kVA dry type transformer. In the end, this new 15kW loop will provide power to this building and has growth opportunities for adjacent structures if needed.

CMTA is providing mechanical/electrical/plumbing engineering design, as well as energy modeling and LEED administration for all MEP credits. The project is certified LEED® Gold.

In 2020, University of Cincinnati's Health Sciences Building won the Midwest Awards' Award of Mert in the Higher Education and Research category, and the 2020 AIA Chicago Design Excellence Award.

CMTA

UNIVERSITY OF KENTUCKY

New Facility
Jacobs Science Building
LEED Silver
Lexington, Kentucky

OWNER
University of Kentucky
Lexington, Kentucky

COST
$110,000,000

CONTACT
Bob Williams
859-218-3120

COMPLETED
2016

University of Kentucky's Don and Cathy Jacobs Science Building provides three lecture halls with state of the art large format audio visual systems, seating 200-300 students each; several biology teaching laboratories for physiology, general biology, and microbiology; and multiple technology enabled active learning (TEAL) classrooms; as well as a Shared Imaging Suite and Biology Learning Center. The main TEAL classroom is located on the second floor and seats 132 students along with several small TEAL rooms that can be centrally scheduled and accessed by students with their campus ID cards.

All MEP, technology, and security design and construction phase services for the facility were provided by CMTA.

The building design includes 263,000 square feet located on three main floors, a partial basement and a penthouse. One wing of the building was designed for future research fit-up once need is determined and financing is available.

The building is served by the campus steam and chilled water loop with secondary level pumping within the building. The chilled and hot water loops serve the air handling units located in the penthouse and deliver conditioned air to each occupied space. Within the labs, all air is exhausted directly and the make-up air is a combination of conditioned outside air and cascading air that has been used previously elsewhere in the building for space conditioning.

Lab pressurization and airflow rates are controlled by lab airflow control valves. The air exchange rates are adjusted based on building occupancy and fume hood airflow rates are decreased based on lab use.

The building incorporates air side energy recovery to precondition the incoming outside air. Energy modeling was utilized to investigate different design solutions.

The electrical distribution includes metering for each individual panel as well as lighting, equipment, and receptacles. The rooms located along the perimeter of the building employ an active daylighting system to reduce the building's reliance on artificial lighting. Additional glazing on interior walls along with select design approaches allow natural light to be transmitted deeper into the building. The building lighting is LED throughout all occupied spaces.

CMTA

ACADEMIC BUILDING SCIENCE CENTER

New Science Center and Academic Building
LEED Gold
Charlotte, North Carolina

OWNER
Johnson C. Smith University
Charlotte, North Carolina

COST
$23,500,000

CONTACT
Anayochukwu C. Ezeigbo
Johnson C. Smith University
704-330-1412

COMPLETED
2014

The central atrium that connects the two wings has become a major circulation area as well as "collaboratorium" for student and faculty interaction.

Provided the mechanical, plumbing, fire protection and electrical engineering for a new 77,000 SF Science Center focusing on STEM Programs.

The design connects two buildings by a four-story atrium. The north wing of the building houses labs and support spaces which required extraordinary plumbing, HVAC, and exhaust systems. The south wing of the building houses instructional spaces (including a Lecture Hall), faculty, administrative, and support spaces.

CMTA

TRANSYLVANIA UNIVERSITY

Renovation
Brown Science Center
Lexington, Kentucky

OWNER
Transylvania University
Lexington, Kentucky

COST
$7,000,000

CONTACT
Darrell Banks
(859) 233-8207

COMPLETED
2014

Transylvania University chose to renovate their 68,000 square foot building in four phases spanning six years. During this time the entire HVAC system and electrical infrastructure was upgraded while approximately half of the building was renovated architecturally. All design and construction services were provided by CMTA.

The building is the main science building on campus, housing all the university's science teaching laboratories as well as faculty research laboratories and offices. Chemistry, biology, physics, and general science classes are held in the building. A vivarium animal research facility is additionally housed in the building and was renovated during this project.

The Brown Science Center contains a total of 48 fume hoods, with the majority of the hoods being added during this project. The energy efficiency of the building was greatly enhanced by adding variable speed exhaust systems to serve these hoods and also incorporating energy recovery into the fume hood exhaust stream.

Other mechanical features that were incorporated into the building design include all new direct digital HVAC facility management system, variable speed pumping for both hot and chilled water systems, clean steam humidification units, retrofit of existing air handlers with variable frequency drives, and new VAV and lab air valve terminals. A dry preaction sprinkler system was added for rooms with critical electronics equipment.

Additionally, the new fume hoods and required make-up air exceeding the existing central plant's ability to provide hot and chilled water. As a result, new boilers were added to serve adjacent buildings connected to the Brown Science central plant.

A new generator was added for all critical and life safety power requirements. Main power service was modified for the building's power requirements, new IT infrastructure was provided, and new lighting controls were installed.

CMTA

EXPERIENCE

schaefer

Higher Education | Cincinnati, Ohio

ALTER HALL

Project Highlights
Dedicated in 1960, the 57,000 sq ft, four story academic building received an $18 million renovation designed for LEED Gold. The new space, housing 33 flexible classroom environments and learning spaces meant for business, english and mathematics courses, retained approximately 70% of the original structure.

Each end of the building was removed to accommodate larger and more open classroom and meeting spaces. Schaefer structural engineers designed the new additions so that they could tie back into the existing structural frame. Other structural challenges included temporary shoring and construction support services to facilitate phased construction sequences, and the removal of a major load bearing column in order to facilitate people flow through the building.

B
S4.00

- 57,000 sq ft
- $18 million
- Designed for LEED Gold

Energy usage is at half the campus average, thanks to windows responsible for reduce solar heating, a reflective roof that reduces heat retention, and other environmentally friendly and energy efficient measures.

Awards
Learning By Design Magazine Grand Prize Winner, AIA Cincinnati Honorable Mention, American School + University Silver Citation Award

EXPERIENCE

schæfer

Higher Education | Columbus, Ohio

VET SIMULATION LAB

Project Highlights

The Ohio State University Vet Simulation Lab project was a one story vertical addition to the existing two story facility. The new 15,000 sq ft flexible space houses labs and offices where educators and students can simulate veterinary exams and procedures on 3D printed and taxidermied animals. The team also worked on the structure's entrance, designing a new lobby and elevator that span both stories.

Before work could begin, Schaefer's team analyzed the existing structure to verify that it could withstand the additional loads, and coordinated with the geotechnical engineer to determine the bearing capacity of the soil. The team utilized creative framing design to limit structural upgrades needed for the existing structure to safely support the new steel, masonry and concrete addition.

B
S4.00

- 15,000 sq ft addition
- $6 million
- Analyzed existing structure

EXPERIENCE

schaefer

Higher Education | Huntington, West Virginia

VISUAL ARTS CENTER

Project Highlights

Schaefer provided the structural design for Marshall University's Visual Arts Center. Previously without a dedicated building for the School of Art and Design classes, the university purchased the 6 story plus basement, 100+ year old building formerly home of the Anderson-Newcomb Department Store in downtown Huntington. The 66,000 sq ft building was renovated and repurposed for studio and classroom space, administrative offices, and a 2,200 sq ft gallery with nearly 150 ft of linear display space. There are retail options on the ground floor. The original hardwood floors remained in the building where possible.

Steel braced frames were installed to provide a lateral force resisting system that complied with the current building code and unique details were developed to create a continuous load path for lateral loads acting on the building. A large platform was provided above the roof to support new HVAC equipment and a basement column was removed to install the emergency generator. A transfer girder and foundation reinforcement allowed for column removal on an upper floor to create a large, open classroom space.

- 66,000 sq ft
- $13.7 million
- Platform was provided above roof to support new HVAC equipment
- Basement column removed to install emergency generator

EXPERIENCE

schæfer

Higher Education | Huntington, West Virginia

FORENSIC SCIENCE CENTER

Project Highlights

This two-story 8,000 sq ft expansion to the existing one-story masonry Marshall University Forensic Science Center houses new classroom space with seating capacity for 50 people and a regional computer forensics laboratory that will provide training, distance learning courses, research, professional continuing education, and computer forensics services to law enforcement. The structure is steel frame enclosed with precast concrete wall panels, glass and aluminum curtain wall.

B
S4.00

- Two-story 8,000 sq ft expansion
- Computer forensics laboratory
- Steel frame enclosed with precast concrete wall panels, glass and aluminum curtain wall
- Design completed 2007, construction completed 2009

EXPERIENCE

schæfer

Higher Education | Huntington, West Virginia

APPLIED ENGINEERING COMPLEX

Project Highlights

The new $50 million Arthur Weisberg Family Applied Engineering Complex at Marshall University was completed in August 2015. The 154,000 sq ft, four-story building provides new facilities for six different academic and research programs. The large number of disciplines housed within the facility led to many occupancies and load types, including classrooms, offices, laboratories with sensitive equipment, high-bay advanced material testing, and large open common areas, all organized to promote collaboration between the programs. The structural steel frame provided the necessary flexibility to efficiently satisfy the programmatic and aesthetic requirements of the architectural design. Over 1000 tons of structural steel were utilized in the construction of the new building.

- 154,000 sq ft
- $50 million

The central atrium of the building features a 50 ft wide column bay with a monumental open stair that spans from the first to the highest floor of the building. The stair is supported by exposed W18 kinked stringers that are in turn supported by W24 beams and girders. Due to the long span of the stair and the flexibility of the support conditions, finite element analysis was performed to evaluate the vibration characteristics of the stair to satisfy occupant comfort.

Photos courtesy of Marshall University

Prepared for: Edward Tucker Architects, Inc.

FACILITY CONDITION ANALYSIS

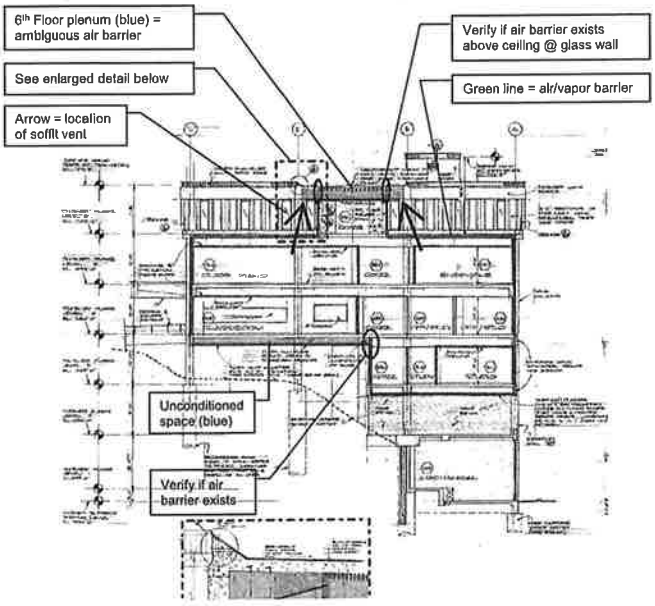
Existing condition surveys typically precede renovations, and serve to document facility problems, identify a strategy and scope to achieve the proposed use, and quantify the investment needed to accomplish the goals for the project.

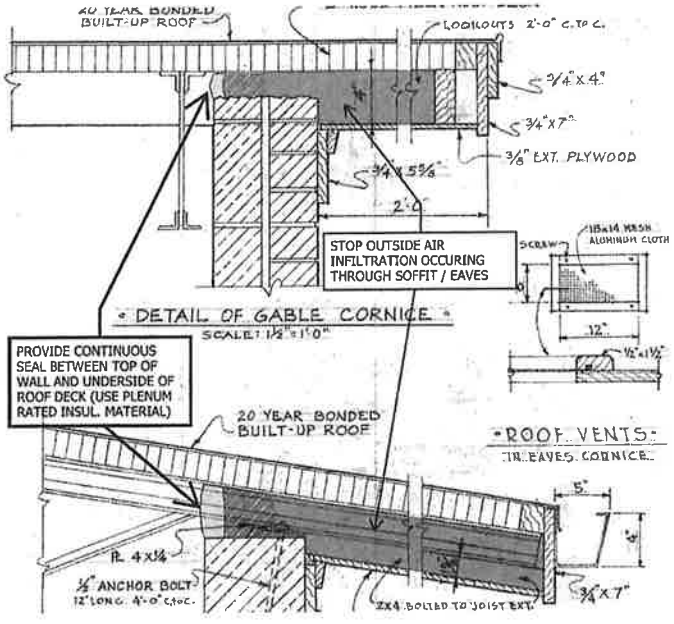
Edward Tucker Architects has performed dozens of Facility Condition Surveys for a variety of clients and project types.

Because so many of our projects involve the rehabilitation of existing facilties, we have become well versed in the analysis and evaluation processes associated with building performance, material deterioration, diagnostics, and intervention.

A sampling of clients include:

- Marshall University
- West Virginia State University
- Ohio University
- City of Huntington, WV
- River City Properties
- Cabell Huntington Hospital
- Logan Corporation
- Raceland-Worthington School District
- Wayne County, WV Commission





PROJECT APPROACH

We guide clients through the often-intimidating process of designing and building a project. You never have to make a decision without the benefit of our guidance and experience, whenever it's needed.

NAVIGATING THESE STEPS EFFICIENTLY AND THOROUGHLY HELPS MAINTAIN SCHEDULE AND BUDGET PARAMETERS WHILE MINIMIZING UNPLEASANT SURPRISES AND DELAYS.

Edward Tucker Architects' location in Huntington provides a distinct advantage to Marshall University. We can lead meetings and perform field work easily, ensuring optimal service and value. We are well connected with the local network of contacts both on campus, at the city, and at state regulatory agencies, and are able to expedite the process of obtaining needed information accordingly.

We are grateful for the relationship we have been able to establish with Marshall University over the past 24 years of practice. We have developed a familiarity with the campus, facilities and staff, and have extensive construction cost data to inform project planning. We will draw on these data to develop detailed cost opinions which guide decisions related to the Science Building Feasibility Study. As Huntington is our home, our committment to the university is unmatched.

Design & construction of higher education facilities in West Virginia involves review, approval and oversight of regulatory approvals. Understanding rules and policies regarding a wide range of processes such as purchasing procedures or allowable construction delivery methodologies, Edward Tucker Architects manages complex consultant and owner representative teams from project inception through construction close-out documentation.

Beyond owner related agency reviews, ETA routinely works with other regulatory bodies including the Office of the Sate Fire Marshal, WV State Historic Preservation Office, county health departments, city planning/development and public works departments, and public utility companies. Aided by familiarity with the people and processes, ETA often conducts informal reviews that precede eventual final submissions, generally resulting in approvals with minimal delay.

CORE VALUES

We believe that innovation is the key to progress. In the right hands, well-designed buildings have the power to change lives.

MOTIVATING PEOPLE FOR THE LONG TERM. CREATING A GREAT PLACE TO WORK..

ETA has very little employee turnover, which is unusual in the design and construction industry. We hire critical thinkers who are energized by new knowledge, concepts, and techniques. Our firm culture emphasizes collaboration, mentoring, and exploration, and while we have extensive experience in some project types, we thrive on new challenges.

TEAMING FLEXIBILITY. ALIGNING EXPERTISE AND THE BEST PEOPLE.

Based on each project's size, type, and complexity, we carefully select the best and most appropriate engineering and consultant team members. Understanding that some projects need design consultants with specific experience, we will partner with other firms when approproate for optimum results.

OPEN COMMUNICATION. "FOR THE COMPANY DIRECTORY, PLEASE DIAL ..."

We strive to ensure that a real person will always take your call so clients can expect responsive, accessible, and attentive people, not message services. We offer timely, relevant responses to our clients' needs, usually in less than 24 hours. One of our three principals is always available to answer questions, listen to concerns, and discuss projects.

ETA conducts client and project group meetings to explore and identify project design needs. Following design reviews, we share a written record of decisions with team members to ensure that everyone is consistently informed. This communication process ensures a complete record of goals and decisions to guide and evaluate project outcomes.

RESPONSIBLE COORDINATION. GETTING IT RIGHT THE FIRST TIME.

ETA's office structure is much more "horizonal" than typical design firms. Our office culture encourages collaboration at all levels, from exploring design solutions to detailing construction documents. While each team member is responsible for specific elements of work, all team members work together and share responsibility for a project's success. Through close communication and technical expertise, our employees create drawings and specifications that provide a cohesive design for each project site, structure, and systems to guide them successfully from design through construction.

CONSISTENT LEADERSHIP FROM BEGINNING TO END. WHEN TEAM MEMBERS CHANGE, PROJECT QUALITY SUFFERS.

At ETA, once a leadership team is established, it stays in place – from concept through construction to occupancy. Staff may be added to the team, should the project require it, but the core team of principal and project architect will not change. This continuity ensures good communication to maintain the project vision.

SPECIALIZED APPROACH: NO TWO PROJECTS – OR CLIENTS – ARE ALIKE. EACH PROJECT DESERVES A UNIQUE, TAILORED DESIGN SUITED TO ITS CIRCUMSTANCES.

When a firm says it has designed dozens of banks, schools, or clinics, it can mean that the same prototypical designs are being used over and over. At ETA, we thoroughly examine each project's site, context, budget, parameters, and other client needs. These factors define the work to be done. We study design exemplars and conduct research of, or travel to, recently completed facilities to ensure best practices for each project. This pre-design exploration helps establish a common language leading to desirable outcomes.

AIM WELL.
TOO MANY PROJECTS FOLLOW THE ALL TOO FAMILIAR PATTERN OF "READY – FIRE – AIM."

ETA works diligently with our clients to question, explore, research, and ultimately reach consensus on project goals and objectives prior to beginning design work. The alignment of goals, planning, budgeting, discovering issues to be resolved, prioritizing, and scheduling all contribute to the pre-design phase. When the target is well defined before the design work begins, a "well aimed" design is much more likely to hit the target.

DOING THE RIGHT THING, ASKING THE RIGHT QUESTIONS.
IF THE ARCHITECT DOES ALL THE TALKING, HOW CAN THEY LEARN ABOUT YOU AND YOUR PROJECT?

ETA listens to our clients and other stakeholders. We investigate and obtain objective data to provide informed and insightful options or solutions. We resist saying we can't do something until all options have been explored, and we always look for ways to do the right thing for the long term. We consistently work to solve problems and create a sustainable project with a lasting sense of identity.

BUDGET, QUALITY LEVEL AND SCHEDULE. WILL THE PROJECT COME IN ON BUDGET?

ETA works with clients to establish accurate funding and budget scenarios based on three key components: budget, quality, and schedule. We provide construction estimates using our own project histories, plus state and national databases. We clarify construction vs. total project budgets. For traditional design-bid-build projects, our database of actual construction costs helps us refine construction documents to stay within budget. We work closely with contractors and subcontractors to stay in tune with bidding and cost climate forecasts in the project's geographical area.

CONSTRUCTION: STAYING ON TARGET TO THE END.
WHY THE ARCHITECT'S LEADERSHIP DURING CONSTRUCTION IS VITAL.

ETA believes the project architect is the best person to perform construction administration, because they are most intimately familiar with the project's overall goals. On-site project meetings are typically held every two weeks to monitor progress, address questions, and resolve issues. Meetings are documented with detailed notes that include action items. Our specific protocols for construction administration have earned the respect of both our clients and the construction community. We routinely hold our errors and omissions to less than one percent (< 1%) of construction costs.

Through the years, we have realized that cost changes and schedule creep are minimized through the following 10 Best Practices, many of which take place before the construction begins.

1. **Project scope, schedule, and budget** are established at the outset of the project.
2. We follow the **drawing notation** mantra of: "Say it once, say it correctly, say it in the proper place" through coordinated information on the drawings.
3. **Specifications** are edited to the needs of each project vs. listing every conceivable system, which only confuses estimators and trades.
4. **Project architects** complete the drawings without drafting technicians. This assures the appropriate level of design and technical competence.
5. **Drawing coordination and quality control** take place throughout the design process, with a final review by a different, experienced architect.
6. **Bid periods** are timed, when possible, to achieve the most favorable pricing.
7. **Communicating** often with the project team by responding to questions and requests with a schedule of action within 24 hours or less.
8. We require the contractor's updated **construction schedule and work plan** at each meeting.
9. **Conducting pre-construction meetings,** including major subcontractors. Customary procedures are established, and a detailed review of the work plan is laid out.
10. **Requiring a contractor's submittal schedule** to plan for lead times and avoid delays.

"You spent many hours listening to what the faculty needed to deliver quality experiences to our students, and you took that information and developed a very comprehensive program. Your design that came from the program is beautiful and functional, and the Visual Arts Center is a masterpiece.

Our partnership with your firm was a rewarding experience for all of us at Marshall University. Thank you!"

Don Van Horn
Dean, College of Arts and Media
Marshall University

REPEAT CLIENTS

The relationships that we build with our clients are the most valued part of the work that we do.

Marshall University	DR. JEROME GILBERT, PRESIDENT (304) 696-2300
Marshall Health	BETH HAMMERS, CEO (34) 691-1712
West Virginia State University	DR. JOSE TOLEDO (304) 766-4290
City of Huntington, West Virginia	STEVE WILLIAMS, MAYOR (304)696-5540
Village of Barboursville, WV	CHRIS TATUM, MAYOR (304) 736-8994
Cabell Huntington Hospital	KEVIN FOWLER, CEO (304) 526-2052
Cabell County Schools	RYAN SAXE, SUPERINTENDENT (304) 528-5043
Bluefield State College	DR. ROBIN CAPEHART, PRESIDENT (304) 327-4000
Cabell County Public Libraries	JUDY RULE, DIRECTOR (304) 528-5700
Huntington Federal Savings Bank	MATT WAGNER, PRESIDENT (304) 528-6200
Cabell County Commission	GORDON MERRY, DIRECTOR OF EMS (304) 526-9797
Toyota Motor Manufacturing, WV	DAVID RANEY, FACILITIES MANAGER (304) 541-2019
Sodexo	JASON OWEN, DIR. OF CONSTRUCTION (270) 843-5536
Alcon Manufacturing	JACK VANHOOSE, FACILITIES SERVICES (304) 733-7529

October 8, 2020

To Whom It May Concern:

Edward Tucker Architects have been involved in multiple Marshall University projects, and it is with confidence I recommend them to any state or public agency. In recent years, the architects and designers have been a part of several signature projects for our institution, our Visual Arts Center, and the expansion of our Health Sciences campus.

With the Visual Arts Center, Edward Tucker Architects, converted a vacant historic department store into a beautiful, inspiring academic space for our school of art and design. The firm was able to modernize the structure to meet both the technological and collaborative demands while honoring its beauty and history.

Edward Tucker Architects was instrumental in designing signature facilities on our Health Sciences Campus, both the Fairfield Landing graduate student apartments and the Stephen J. Kopp School of Pharmacy. These critical projects were constrained by location, budget, and timeline to open the project in advance of a quickly approaching academic year.

In each of our experiences, we have found the firm to be mindful of both budgetary and time constraints without losing site of the building's purpose and the institutional vision for our educational spaces. The University has never been at a loss as to the project's status because of Edward Tucker Architects continuous communication with our facilities management team. We have always appreciated their patience with us as we appeal to various constituencies, such as students, faculty, staff and alumni throughout the design and programming process.

Our experience working with Edward Tucker Architects has always been positive. Their understanding of space, attention to detail, and commitment to designing buildings that enhance the neighborhoods they are located in qualify them both new and renovated construction. We look forward to working with them in the future.

Regards,

Jerome A. Gilbert, Ph.D.

Marshall University
Office of the President

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