# MEP Engineering Design for Higher Education

Your Partner in Engineering the Right Building Environment







# COLLABORATION

Peter Basso Associates (PBA) has worked with dozens of major universities and community colleges, forging many decades-long relationships. We believe in mutual trust, respect and collaborative working relationships, which have been key to the many project successes enjoyed by our clients and our firm.

## SPECIALIZED EXPERTISE

Using our expertise in the design of high performance systems, PBA delivers MEP systems that satisfy building owners and occupants. With a group of engineers and designers dedicated almost exclusively to the design of MEP systems, we're able to create the following types of spaces:

Classrooms: The proper learning environment integrates consideration of sound, comfort, illumination and technology.

• Sports and Recreational Facilities: Because these areas are event-driven, they require flexible controls to respond to varying lighting and HVAC demands.

• Science Buildings and Laboratories: Design must maximize flexibility to accommodate ongoing changes to laboratory equipment. Systems must provide appropriate electrical power, exhaust and make-up air, suitable controls to maintain room pressurization and specialized plumbing and piping systems.

• *Fine Arts Facilities:* Design of these facilities integrates quiet air handling systems which maintain a stable indoor environment, acoustic separation of spaces, appropriate lighting control and technology-intense audio-visual systems.



• Libraries and Museums: Temperature and humidity control are critical in these spaces, in addition to the specialized display lighting systems and integrated media & technology.

• *Housing and Food Service:* A key to HVAC design in student housing settings is ease of maintenance with minimized impact on student occupants. Energy-conserving kitchen exhaust and dining ventilation systems are key to long-term, economical food preparation and delivery operations.

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• Energy Management Systems: Energy management is a key component in the design of sustainable buildings. Incorporating an energy conservation plan into facility design reduces unnecessary energy use during unoccupied periods, reduces excessive seasonal energy use, prioritizes energy use for heating, cooling and lighting and identifies energy savings opportunities by benchmarking against industry norms.

• Infrastructure Studies and Upgrades: Planning and design must address current and future load requirements effectively and efficiently based on campus master planning and facility condition analyses.

EXPERTISE

Satisfying these requirements can be even more demanding during renovation, when system modifications must be closely coordinated. Evaluation of existing systems must identify necessary improvements and options to efficiently integrate existing systems with new systems.

# SUSTAINABLE DESIGN

The key to successful sustainable design is a collaborative approach between all design disciplines. As MEP engineers, we work closely with the architect to help optimize the design of the building envelope in synergy with the design of MEP systems. Through close collaboration, MEP system capacities and long-term energy use can be minimized, and the indoor environment can be optimized.

Sustainable design strategies applied to the design of high performance buildings can include geothermal heat pump systems, chilled beam technology, solar photovoltaic systems, energy recovery and free cooling systems.

PBA is a member of the U.S. Green Building Council, and staff members in all of our practice areas have attained LEED® Accreditation. We provide both design and documentation services, as well as commissioning, for LEED® certification.



### LEADERSHIP PARTICIPATION

Led by Higher Education Design Group Leader Dennis Sczomak, our engineers and designers deliver presentations at conferences such as the Michigan Association of Physical Plant Administrators (MiAPPA), the Big 10 & Friends Mechanical and Energy Conference, Engineering Society of Detroit Energy Conference, and Tradeline. Topics have included LED lighting, student housing, retro-commissioning, chilled beam technology, biocontainment and science building design.

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# **Representative Higher Education Clients**

- Central Michigan University
- Concordia University
- Delta College
- Ferris State University
- Grand Valley State University
- Henry Ford College
- Hillsdale College
- Kalamazoo College
- Lake Michigan College
- Lake Superior State University
- Macomb Community College
- Michigan State University
- Michigan Technological University
- Mid Michigan College
- Mott Community College
- North Central Michigan College
- Northern Michigan University
- Oakland Community College
- Oakland University
- Saginaw Valley State University
- St. Clair County Community College
- Schoolcraft College
- Spring Arbor University
- The Ohio State University
- University of Detroit Mercy
- University of Michigan
- University of Notre Dame
- Walsh College
- Washtenaw Community College District
- Wayne County Community College District
- Wayne State University
- Western Michigan University



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# Contact Peter Basso Associates for insight into your MEP engineering needs

Peter Basso Associates, Inc. is Michigan's largest MEP Engineering Firm and we have been hard at work achieving our national recognition as an industry leader and client collaborator for nearly three decades.

### Your Engineering Partner Since 1990

When we started in 1990, with a small staff providing only mechanical engineering services, we built the rock-solid foundation for today's staff of over 100 and our ever-expanding suite of services – from mechanical, electrical and plumbing engineering, to Illuminart architectural lighting design, commissioning and retro-commissioning and so much more.

### 100% Employee Owned

Everyone you work with at Peter Basso Associates (PBA) has a vested interest in your project's positive outcome and a personal stake in the success of our firm. That's because our company has been employee-owned through an Employee Stock Ownership Plan since 2002.

### **Turning Projects Into Partnerships**

At PBA, we value relationships – not just projects. We want to create environments that serve you by designing systems that allow people to heal, live, learn, work and play.

### **Nationally Recognized Experts**

We excel at highly technical, challenging projects, and our in-depth knowledge of best practices extends across multiple markets. Recognized as a leader in MEP engineering, Peter Basso Associates is at the forefront of the application of new technology, balancing performance with cost. A 'PBA System' is one that focuses on cost-effective solutions that pay returns over the life of the facility.



Email: *MEPEngineer@pbanet.com www.peterbassoassociates.com* 

5145 Livernois, Suite 100 Troy, MI 48098 T | 248.879.5666 F | 248.879.0007



2001 Commonwealth Blvd., Suite 203 Ann Arbor, MI 48105 T | 734.913.4749 F | 734.913.4957