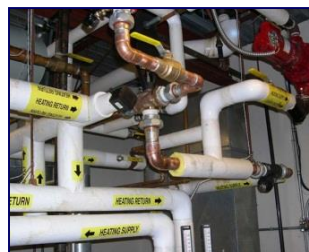
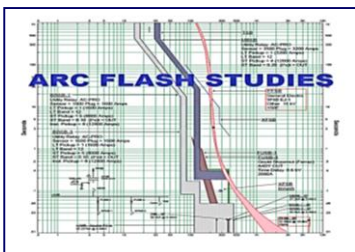
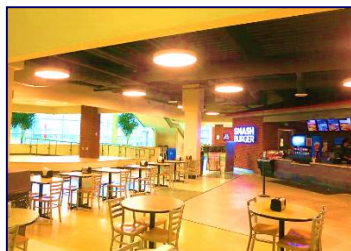




# MEP Engineers, LLC

Mechanical | Electrical | Plumbing | Energy  
Engineering & Construction Services



## Qualifications for Professional M E P Engineering Services



*“Trust is at the heart of  
our relationships and  
there are basics  
associated with trust  
that we firmly follow:  
confidentiality,  
communication,  
consistent delivery of  
quality services,  
and valuing the  
needs and culture  
of our clients.”*

## Who We Are

### Our History

In 1994, Steve Metti co-founded a firm specializing in electrical engineering design services. Steve believed every engineering system should work hard for the funds invested. In 2001, this emerging enterprise added a mechanical engineering group to its scope of services. Today, **MEP** offers the latest in engineering and technical services for the mechanical, electrical, plumbing and energy disciplines.

### Our Staff

**MEP** employs a staff of highly skilled professionals. Licensed to practice in several states, our principals, Steve Metti and Joe Malkoun, are also registered with NCEES allowing us to obtain a license in additional states on short notice as needed. Our broad spectrum of in-house talent gives us a unique ability to handle any challenge encountered in the design, installation and service phases of a project.

### Our Markets

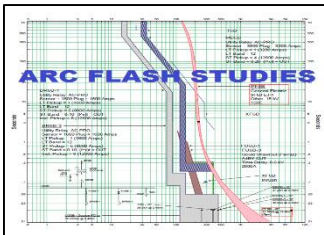
Our firm has extensive experience in retail, commercial, research laboratory, higher education, healthcare, K-12, municipal, library, religious, industrial, and multi-family housing projects. Clients include building owners, architects, facility managers, developers, design/build contractors, and construction management firms. Our projects range in size and complexity from system and facility studies to major engineering efforts for large capital projects. Additionally, **MEP** has worked internationally on projects in the Middle East, Europe, and Asia.

### Our Culture

As a small business enterprise, we are unencumbered by size or corporate bureaucracy and clients work directly with the expert engineers that perform their work. Projects are never handed off to junior engineers once the contract is awarded. We strive for engineering excellence and use innovative methods for finding creative solutions to your engineering challenges. This involves flexibility and an open-minded approach to the engineering process.

### Our Mission

We're focused on you. The overwhelming requirement for a successful project outcome is a happy and satisfied client whose needs have been met on the completed project. For the staff at **MEP**, that translates into projects completed on time and within or under budget.



## We Have a Passion for Engineering

### Mechanical Engineering

- HVAC and Temperature Controls
- Plumbing and Fire Protection
- Steam, Chilled Water and Hot Water Distribution
- Hot Water Heating Systems (Including Boiler Plant Retrofits)
- Boiler and Chiller Plants
- Compressed Air Systems
- Fire Protection Systems (Standpipes and Sprinklers)
- Clean Room Deionized Water Systems
- Process Piping, Ventilation, Cooling
- Computer Rooms and Data Centers AC
- Medical Gas Systems

### Electrical Engineering

- Building, Power, Lighting Systems
- Power Distribution (High, Medium and Low Voltage)
- Custom Lighting Design / Controls
- Computer and Telecommunications
- Fire Alarm, Life Safety, Security, and Audio Visual Systems
- Electrical System Analysis, Evaluation and Recommendations
- Load Analysis / Short Circuit Studies
- Fault Current Analysis
- Protection Coordination
- Arc Flash Studies
- NEC Compliance
- Emergency Generators / UPS

### Construction Management

- Turnkey Projects (Design/Build)
- Contract Administration
- Field Supervision
- Budget and Construction Estimating
- Start-up, Commissioning and Project Close-out

### Energy Engineering

- Energy Audits
- Energy Conservation Studies / Reports
- Building Automation Systems
- Life Cycle Costing
- Lighting Analysis

### Facility Maintenance and Operations

- Electrical Power Distribution System Assessments (PDSA)
- Life-Cycle Analysis
- Facility Condition Assessments



## Assessments

### Mechanical | Electrical | Plumbing



**MEP** has been conducting building and property condition assessments (PCA) for single buildings and entire office campuses for many years. PCAs examine all systems and components in a building, identifying areas where modifications or upgrades are necessary to meet the needs of building occupants, to bring the building into compliance with code, or to place the building systems and components into functional effectiveness. It is often compared to an inventory – a list of what a facility has and what it needs to function on a daily basis. When upgrading or purchasing a building, the PCA serves as a “road map,” showing what needs to be done and what costs are in order. It can be very overwhelming to plan necessary improvements to a facility. Advances in technology, needs of users, and overall wear-and-tear on a building can make decisions difficult.

PCA reports are effective tools in any facility, regardless of age or complexity. Areas **MEP** covers in its reports include:

#### Mechanical Engineering

- Air Balancing
- Controls
- Energy Management Systems
- Energy Evaluation
- Life Cycle Costing
- HVAC Systems
- Piping Systems Evaluation
- Plumbing & Fire Protection

#### Electrical Engineering

- Communications
- Controls
- Energy Management Systems
- Lighting
- Life Safety
- Load Study Analysis
- Power Systems

#### PCA Projects Include:

##### Oakland University

- Kresge Library, Pawley Hall, Elliott Hall, Graham Health Center, Building & Ground Maintenance Facility

##### Beaumont North Macomb Ambulatory Care Center

- Assessment of air-cooled chiller

##### Hamtramck Public Schools

- 10 k-12 & administration facilities

##### Ross Medical Education Centers - Various Locations

- PCAs for conversion to medical training centers

##### General Motors – Various Locations

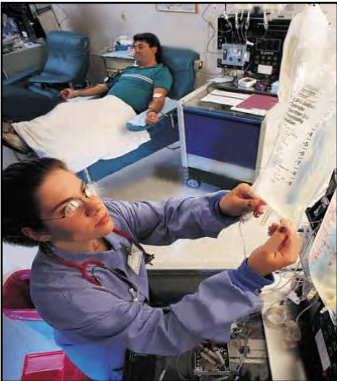
- 15KV Feeders Testing, Substation Assessment & Report

##### Pontiac City Hall - Halon System Assessment & Report

##### DTE – Various Locations - Asset Preservation Assessment

##### Reichhold World HQ – NC - PCA & Report

##### Compuware HQ – Farmington Hills, MI - PCA



## Healthcare

This is a given: Sick and injured people need immediate attention.

This is also a given: As patient needs, medical knowledge, and diagnostic and treatment equipment become more sophisticated, so must the electrical and mechanical systems that form the infrastructure of healthcare facilities.

New technologies such as computer-assisted surgery, telemedicine, nanotechnology, and more, are continually changing healthcare delivery. They have made healthcare engineering more complex and require continuous service delivery improvements.

Coupled with the fact that the life cycle of most new medical technologies is shorter than the buildings in which they are used, healthcare facilities must become more flexible, use more modular building components and have more accessible electrical and mechanical systems.

**MEP** has extensive experience in the specialized design requirements of healthcare facilities. We have worked on new buildings, as well as the modernization and renovation of existing facilities. Our experience includes:

- Heating, Ventilation and Air Conditioning / Plumbing Systems
- Life Safety and Security Systems
- Lighting Design Services
- Primary Distribution Systems
- Medical Gas Systems
- Commissioning / Recommissioning
- Environmental Conservation, Compliance and Management
- Utility Assessments
- Computers and Information Management Networks

### Healthcare Projects Include:

- St. Joseph Mercy Health Systems – Various Locations
- Brateman Medical Building – Novi, MI
- TCW Surgical Center – Fisher Bldg. - Detroit, MI
- DMC Children's Hospital – Detroit, MI
- Premier Pediatrics – Dearborn Heights, MI
- Beaumont Hospital – Various Locations
- Beaumont Urgent Care – West Bloomfield, MI
- Ross Medical Education Centers –Various Locations
- Veteran Affairs Medical Centers – Battle Creek | Detroit | Saginaw
- Basha Diagnostics – Royal Oak, MI



## Engineering for Higher Education

Just as existential psychology is a synthesis of philosophy and psychology, existential engineering blends philosophy with practical engineering design. With apologies to Kierkegaard, existential engineering finds clarity in *how to design for the future while embracing lessons learned from the past in order to create something valuable for the present*. Using this as a base philosophy, **MEP** delivers superior engineering to higher education clients facing the challenges of rapidly advancing technology, the ever-changing requirements of students and faculty in curriculum and instructional methods, and the need for adaptable and flexible spaces.

New capital outlay projects, ongoing maintenance, facilities renewal, and deferred maintenance projects also present continual challenges to higher education facilities. There is a great need to ensure that all buildings, whatever their age or size, meet or exceed life, health and safety codes. Additionally, the buildings must be technologically- and energy-efficient; be comfortable for students, faculty and staff; and be durable and cost-effective year after year.

As funding gets tighter and demands increase, higher education institutions are increasingly focusing on long-range planning and the efficient use of resources. We are continually exploring current and trendsetting designs to help our clients now and in planning for the future.

### Higher Education Projects Include:

- Classroom Buildings
- Laboratories
- High-Tech Computer Centers
- Dormitories
- Cafeterias
- Student Centers
- University Administration Bldgs.
- Athletic Facilities
- Performing Arts Centers
- Conference Centers
- Libraries
- Facility Condition Assessments

### Higher Education Projects for:

- Eastern Michigan University
- Lawrence Technological University
- Madonna University
- Michigan State University
- Oakland University
- University of Detroit Mercy
- Wayne State University



Walgreen's



Main Street - Novi



Holiday Inn Express



Mitchell's Fish Market



Fifth Third Bank

## Retail

Retail development and construction is very different today than it was just five years ago. Customer demands, changing retail formats, tenant constraints, store consolidations, demographic shifts, and explosions in technology are all affecting how retail facilities are designed. Whether it's enclosed shopping centers or open air lifestyle centers, department stores or big box retailers, **MEP** delivers unique mechanical and electrical engineering solutions that reflect the operational objectives of each client.

Value engineering and cost reductions are another vital part of the design and construction process. Lighting, heating, ventilating and air conditioning (HVAC), piping, plumbing and fire protection systems influence a facility's health and safety. By using a whole-building design concept, **MEP** designs engineering systems that:

- Maximize occupant satisfaction
- Enhance the retail experience
- Reduce operating inefficiencies
- Reduce operating costs
- Improve energy efficiency
- Increase user comfort and health

**MEP** has worked with retailers, developers, architects, and management companies on a wide range of retail developments including:

- Department Stores
- Discount Stores
- Supercenters
- Drug Stores
- Grocery Stores
- Shopping Centers / Strip Malls
- Financial Institutions
- Hotels / Lodging
- Restaurants
- Mixed-Use Developments

### Retail Building Projects Include:

- Marrow Butcher Shop & Restaurant – Detroit
- BHPI Medical Suite – Detroit
- Chene Street Grocers – Detroit
- Vegano Restaurant – Detroit
- Cultivation Facility - Detroit
- Sears Hometown & Outlet Warehouse Distribution Center – Livonia, MI
- ABC Warehouse – Holland, MI
- Walgreen's – Various Locations
- Multi-Use: Lear – Detroit, MI
- Main Street – Novi, MI
- Holiday Inn Express – Various Locations
- Krane Chrysler Dodge Dealership – Lapeer, MI
- Mayflower Centre – Plymouth, MI
- Mitchell's Fish Market – Birmingham, MI
- Fifth Third Bank – Ann Arbor, MI
- University Food – Detroit, MI



Masco Corporation HQ



Columbia Center Office Complex



ZF Technologies N. American Tech Center



W.K. Kellogg Foundation HQ



General Dynamics Michigan R&D Center

## Commercial | Industrial

**MEP** specializes in providing mechanical and electrical engineering services for commercial buildings. These services range from planning and design to operations and maintenance consulting. Whether you need standalone services or fully integrated solutions, **MEP** provides a single focal point from which to plan and manage your building strategy.

Today's commercial facilities demand innovative solutions for operational efficiency more so than ever before. Building owners need to consider not only base design and construction costs, but how on-going energy, operations and maintenance costs will be impacted. In addition, retrofits are required for aging building systems that will:

- Increase energy savings
- Reduce maintenance and capital costs
- Reduce environmental impact
- Increase occupant comfort and health

**MEP's** broad base of commercial experience includes new construction, additions and renovations, core and shell, and adaptive re-use projects. Let us design engineering systems for your:

- Low-rise and high-rise office buildings
- Corporate headquarters and campuses
- Mixed-use developments
- Banks / financial institutions
- Shopping centers / retail stores
- Hotels / restaurants

### Commercial | Industrial Projects Include:

- Livonia Corporate Tower - Livonia, MI
- General Dynamics Land Systems (AVVV Bldg.) – Sterling Heights, MI
- Lear Corporation – Detroit, MI
- General Motors – Various Locations
- Michigan Farm Bureau Insurance – Lansing, MI
- Masco Corporate Headquarters – Taylor, MI
- Columbia Center (I & II Buildings) – Troy, MI
- ZF Technologies North American Technical Center – Northville, MI
- Kellogg Foundation Headquarters – Battle Creek, MI
- General Dynamics Michigan R&D Center - Ypsilanti, MI
- CitiMortgage – Southfield, MI
- Freedom One Corporate Offices – Clarkston, MI
- Bingham Farms Office Building – Bingham Farms, MI
- Eberspacher North America – Novi, MI
- Beck North Corporate Park – Farmington Hills, MI
- Dura Automotive Headquarters – Auburn Hills, MI
- Americana West Office Park – W. Bloomfield, MI
- Oak Park Plaza - Oak Park, MI



The Harbours – Clinton Twp.



Village at Midtown Square – Troy



Michigan House Sr. Apts. – Riverview



Madonna University Dorm & Cafeteria

## Multi-Family | Senior Housing

Multi-family housing is a key component of urban growth. Though multi-family housing requires less public infrastructure (sewer and water pipes; electricity and gas lines), its design has become more sophisticated and requires engineering involvement from the beginning of the project. **MEP** designs multi-family housing projects for both the private and public sectors.

Building types range from new construction of detached housing units, multiple buildings with attached units, and projects requiring extensive renovations. Our experience includes:

- Garden-Level, Mid-Rise, and High-Rise Apartments
- Condominiums / Townhouses
- Senior Housing / Assisted-Living Facilities
- Mixed-Use Commercial / Residential Buildings
- Dormitories

In addition to basic electrical and mechanical design, **MEP** engineers are experienced with design issues particular to multi-family housing:

• **Electrical Engineers** work with interior designers to locate outlets and switches that interface with furniture layouts, use computer simulations for site lighting layout, are familiar with local fire alarm and ADA requirements, include arc fault circuit breakers in bedroom receptacle circuits, and routinely contact and work with all utility companies to ensure a smooth project.

• **Mechanical Engineers** design energy-efficient, economical and low-noise HVAC systems, duct distribution systems (supply and return) that address fire separation challenges and minimize the need for fire dampers and unsightly access panels, locate air-diffusing devices, conduct mechanical system commissioning, and have worked with numerous municipalities in developing building envelope energy calculations.

• **Plumbing Engineers** are knowledgeable about the latest plumbing installation advances including applying air admittance valves for sanitary venting systems, and CPVC piping for water distribution. For gas distribution, they apply medium pressure piping with pressure reducing valves in order to use smaller piping from the gas meter. MEP-E's plumbing design automatically includes sanitary plumbing risers to convey design to inspection authorities and contractors.

### Multi-Family | Senior Housing Projects Include:

- Encore Village-Brighton
- The Bristol-Birmingham
- Meadow Ridge Apts.-Ypsilanti
- S&L Manor-Farmington Hills
- Huntley Manor Condos-Novi
- Manchester Condos-Novi
- Livonia Corp Tower Apts.-Livonia
- Maple Ridge Condos-Commerce
- Carnegie Park Apts.-Southfield
- Dignitas Sr. Living-Farmington Hills
- Mission Pte. Nursing & Rehab-Holly
- Michigan House Sr. Apts.-Riverview



## Municipal | County | Government

Municipal buildings are designed to offer services that meet a variety of diverse public needs. As such, they require continual systems upgrades, code compliance changes, programmatic expansions or replacement of obsolete facilities, and ongoing security considerations. The proper design and performance of a building's engineering systems have a direct influence on your ability to meet specific organizational objectives.

Facility managers must often make difficult technical decisions on when and how to maintain, repair, or renew their buildings. They are under significant pressure to provide more services, while at the same time they are being asked to cut costs, outsource responsibilities, and reduce expenditures. Deferred maintenance, department downsizing, and leadership or political changes are also affecting facility operations.

**MEP** can help relieve some of this burden by working with municipalities to develop and deliver facility systems engineering solutions that meet short- and long-term needs. Our many years of experience have equipped us with a thorough understanding of engineering systems for a broad range of building types. Whether you're in need of immediate assistance in solving a functional electrical or mechanical problem or contemplating a long-range, multi-phased building program, our team of highly-skilled engineers brings a depth and breadth of professional expertise that will greatly contribute to the success of your projects.

**MEP** provides engineering solutions for a wide range of municipal infrastructures including:

- Government office buildings
- Fire stations
- Police stations
- Courthouses
- Libraries
- K-12 schools
- Swimming pools
- Recreation facilities
- Water treatment facilities

### Municipal | County | Government Building Projects Include:

- Red Oaks Waterpark – Madison Heights
- Maybury State Park Storm Shelter – Northville
- Interlochen State Park Storm Shelter – Interlochen
- General Dynamics Army Vehicles Validation/Verification – Warren, MI
- Selfridge Air National Guard Base – Harrison Twp., MI
- Wayne County Airport Authority | Westin Hotel @ Detroit Metro Airport
- State of Michigan – 5 Year Discretionary Services Contract
- Detroit Police Department – Various Precincts
- Milford Police Station - Milford
- Livingston County Courthouse Annex - Howell
- Clinton-Macomb Public Library – Clinton Twp.
- Grosse Pointe Public Library – Park Branch
- VAMC – Battle Creek | Detroit | Saginaw, MI
- Flint Federal Building - Flint



Aleda E. Lutz VAMC



Clinton-Macomb Public Library



Flint Federal Building