

MH Professional Engineering, PLLC



OFFICE BUILDING PROJECT EXPERIENCE

STATE UNIVERSITY OF NEW YORK/STATE UNIVERSITY ADMINISTRATION HEADQUARTERS

Albany, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for the renovation of four floors on the South Tower and six floors of the Center Tower of the SUNY Administration Building.
- HVAC system consisted of replacing fan coil units, VAV boxes, constant volume boxes, distribution system, and control system upgrade. Hot water and chilled water piping distribution system was also replaced.
- Plumbing systems included the installation of new water and sanitary systems for new toilet rooms, replacement of storm water drainage, and extension of chilled water drinking system.
- The fire sprinkler system was replaced for each floor renovated.
- Electrical power distribution was upgraded to meet new office layouts for each of the renovated floors, including new feeders and panels.
- Building management system was expanded to include all equipment provided.
- Fire alarm system upgraded on all renovated floors.



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OFFICE BUILDING PROJECT EXPERIENCE

CORNING TOWER, 41st FLOOR REHABILITATION, EMPIRE STATE PLAZA

Albany, NY

- Provided Mechanical, Electrical, and Plumbing engineering design services for the Corning Tower, 41st Floor Rehabilitation at Empire State Plaza.
- Phase 1 scope involved a complete removal of all mechanical, electrical, and plumbing systems to facilitate complete hazardous materials abatement of the space. Multiple utilities had to be maintained, relocated, or temporarily reconnected in order to maintain services to the occupied floors below. The area was minimally reconstructed in order to leave the shell in an operable condition with the required life safety systems for a shell space in an occupied high-rise building. Perimeter heating and cooling equipment remained in place; new lighting, controls and exit signs were installed; and fire alarm system modifications were made to facilitate continued life safety.
- Phase 2 scope consisted of a full tenant fit-out of the floor.
 - Replaced ductwork and piping serving the floor with additional zoning to meet new space layout requirements. Replaced induction units at the exterior curtain walls.
 - Reconstructed restrooms to be ADA compliant and provided two break /kitchenette areas.
 - Designed power required for lighting systems and controls (normal and emergency) with lighting designer.
 - Designed power and data distribution system for workstations through existing underfloor raceway system.
 - Designed new distribution panelboards for both 480/277V and 120/208V systems.
 - Designed fire alarm system modifications to comply with requirements of tenant space layout.
 - Designed upgrade to HVAC controls to integrate with existing facility building management system.
 - All building systems were designed in compliance with 2020 New York State Building Codes, NFPA 72, ADA, and 2017 National Electrical Code.



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OFFICE BUILDING PROJECT EXPERIENCE

REHABILITATE 5th FLOOR, TEN EYCK STATE OFFICE BUILDING

Albany, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for the design of a 19,000 ft² office renovation.
- Provided full MEP design for central toilet room reconfiguration.
- Walkerduct power and data distribution system was totally redesigned to match proposed open office plan furniture concept.
- Due to existing electric room code compliance issues, new distribution panels were designed and located in areas where code compliance could be achieved.
- Designed additional smoke detection for new office spaces. Relocated notification and detection devices where required. Provided plotter, copier and fax data where required. Provided data to the proposed offices. Provided new cabling in the existing walkerduct system.
- Plumbing renovation included the addition of a breakroom sink and a hot water recirculation system.
- Designed new bathroom exhaust, main air handler conditioning and ventilating the space was existing to remain.
- Relocated additional sprinkler heads where required for new office space layout.



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OFFICE BUILDING PROJECT EXPERIENCE

PLUMBERS AND PIPE FITTERS LOCAL 773

Glens Falls, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for a single-story 18,000 ft² training facility for the local plumbers and pipefitters union.
- The building houses multiple offices and classrooms, a teaching shop, a welding shop, and a meeting room, along with other support spaces.
- The office spaces are conditioned with an air source variable refrigerant volume (VRV) system.
- Fresh air is provided by three energy recovery units. The teaching and welding shops are heated with underfloor radiant heat and unit heaters. Each of these rooms also has exhaust fans so fumes can be exhausted. Heated make up air will be provided to these spaces through outside air louvers with motorized dampers linked with an air handling unit (AHU) with hot water coils.
- Two high-efficiency natural gas-fired condensing boilers provide heating hot water for the radiant floor system, the AHU and the unit heaters. The lighting system utilizes a combination of high efficiency fluorescent, LED, high pressure sodium, and metal halide lamps and fixtures. Occupancy sensor lighting controls are included in many spaces.



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OFFICE BUILDING PROJECT EXPERIENCE

DIMENSION STEEL FABRICATORS

Glenville, NY

- Lead Mechanical, Electrical, Plumbing, and Fire Protection Engineers for a 10,000 ft² corporate office expansion and gut rehabilitation.
- Office area is a “building within a building” of the manufacturing plant.
- Includes upgraded and rezoned HVAC system, enhanced lighting scheme, and upgraded power distribution and fire protection systems.



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OFFICE BUILDING PROJECT EXPERIENCE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION REGION 3 HEADQUARTERS BUILDING

New Paltz, NY

- Lead Mechanical and Electrical Engineers for a 20,000 ft², two-story complete renovation and 22,000 ft² addition.
- The project included a 24-well water-to-water geothermal heat pump system for heating hot water and chilled water generation, a 4-pipe distribution system, a lighting control system, and use of water saving plumbing fixtures throughout the building.
- The project achieved a Silver rating under LEED 2.1 with the United States Green Building Council.



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OFFICE BUILDING PROJECT EXPERIENCE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION REGION 5 SUB-OFFICE BUILDING

Warrensburg, NY

- Project managed the entire engineering scope and designed the HVAC, plumbing, and fire protection systems for a 16,000 ft², two-story complete renovation and 12,000 ft² addition.
- The project included a variable air volume air handling system, heating hot water generation and distribution system, DX cooling, a lighting control system, and use of water saving plumbing fixtures throughout the building.
- The project was awarded a Gold Rating under LEED 2.1 with the United States Green Building Council.



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OFFICE BUILDING PROJECT EXPERIENCE

FORENSIC INVESTIGATION UNITS AND COMMAND CENTERS

Ray Brook, Oneida and Middletown, NY

- MH Professional Engineering was retained by The Office of General Services (OGS) to provide consulting and design engineering services for the Forensic Investigation Unit (FIU) and Command Center addition and renovation projects in Ray Brook, Oneida, and Middletown, NY.
- The designs in all three buildings incorporated LEED standards and Executive Order 111 for “green” buildings and are LEED certified with the United States Green Building Council.
- The result of the engineering services was a coordinated prototypical set of building engineering documents allowing for consistent design and construction between the three sites.
- New FIU buildings were planned to alleviate some of the overcrowding within the existing headquarters buildings. With the rapidly expanding role of the forensic sciences in police investigations and new regulations requiring long-term storage of DNA evidence, the existing headquarters buildings no longer support the needs of the forensic investigations unit. Specifically, the FIU buildings provide much needed evidence storage, laboratory and office space for the rapidly expanding departments of Forensic Investigations and Computer Crimes.
- The command center supports all the troop radio dispatch and communications functions, the park police dispatch functions and non-business hour troop desk operations. All of the facility sites, with the exception of the Ray Brook facility, have command center upgrades, which include the design and construction of a small data center.



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OFFICE BUILDING PROJECT EXPERIENCE

NYS DEPARTMENT OF TRANSPORTATION REGION 1 HEADQUARTERS

Schenectady, NY

- The Department of Transportation (DOT) Region One Headquarters located in downtown Schenectady earned a LEED 2.0 “Silver” rating from the United States Green Building Council due to its environmentally-friendly design and construction.
- The project involved redevelopment of a vacant urban site into a four-story, 125,000 ft² design/build office building.
- Firm principal was responsible for the mechanical engineering design and commissioning services of the HVAC and fire protection systems on this project.
- The mechanical building systems were designed to meet LEED 2.0 standards and included five boilers, four air handlers, two water-cooled chillers, and two cooling towers. Energy efficiency was achieved so that the building's energy cost dropped to 35 percent below its modeled baseline and water consumption dropped to 32% below that of a standard building.
- The building project tied into the municipal water, sewer, natural gas and electrical services, and at the same time allowed for needed upgrades to this vital infrastructure.
- All HVAC equipment – chillers and package equipment – was selected based on criteria of non-ozone depleting refrigerants.
- A carbon dioxide (CO₂) monitoring and control system was installed to respond to occupancy and maintain acceptable CO₂ concentrations, while at the same time reduce energy use for conditioning of ventilation air. Diffuser selection and layout were designed to achieve effective air mixing.
- The commissioning began during the design phase, and continued through construction, training, and into the warranty period to ensure that the functional and energy efficiency objectives for the project were achieved. As part of the commissioning services performed, a recommissioning manual was written for use by the building owner to maintain the building's LEED rating. This project was one of the first New York State office buildings to achieve a LEED rating.



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OFFICE BUILDING PROJECT EXPERIENCE

MVP CONSTRUCTION

Clifton Park, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for new office/warehouse for local masonry contractor.

LAW OFFICES OF COUGHLIN & GERHART

Binghamton, NY

- Lead Mechanical Engineer for office renovation/reconfiguration project.
- Space was formerly occupied by New York State Electric and Gas call center.

SCHUYLER MANSION

Menands, NY

- Gut rehabilitation of existing office space. Design included the complete replacement of the HVAC system, new lighting, and new electrical distribution.
- Designed systems to reflect and work with required phasing of the project.

BUILDING 9, STATE OFFICE BUILDING

Albany, NY

- Lead Electrical Engineer for modifications to three air handling units located within Building 9 at the State Office Building Campus.
- Completed the electrical design of wiring/control modifications to AHU-1, AHU-2 and AHU-3.
- Removed existing soft start starters within existing Penthouse Motor Control Center (MCC).
- Replaced existing feeders from the existing MCC to the existing AHU motors.
- Provided power wiring to three new variable frequency drives.

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OFFICE BUILDING PROJECT EXPERIENCE

NORTHUMBERLAND TOWN HALL

Gansevoort, NY

- Lead Mechanical, Electrical, and Plumbing Engineers for a new town hall building.
- Designed building heating and air conditioning ventilation systems, including ductwork and refrigeration piping.
- Designed the building's potable water piping to all plumbing fixtures and hot water heaters.
- Electric power distribution was designed to mechanical equipment, general receptacle power, and specialty equipment power feeds.
- Designed power, switching and wiring to indoor/outdoor lighting, associated controls, egress lighting, and exit signs.
- Provided fire alarm horn strobe, pull station and initiating device layout with the appropriate interlocks to mechanical HVAC equipment and security system for building egress code compliance.
- Designed wiring and outlet locations with provisions for properly located raceway/conduit to accommodate security, telephone and data wiring.



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OFFICE BUILDING PROJECT EXPERIENCE

TOWN OF MOREAU NEW TOWN HALL/TOWN COURT BUILDING

Moreau, NY

- New 13,000 ft² building for town offices and town court for the purpose of consolidating locations, upgrading spaces, and vacating leased space.
- Building design included generator, energy recovery ventilators and several different types of fire protection systems.
- Utility services for project were planned anticipating future town buildings would be located at the same site.



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OFFICE BUILDING PROJECT EXPERIENCE

BUILDING 5, HARRIMAN STATE OFFICE BUILDING CAMPUS

Albany, NY

- Building was originally built and occupied in the mid-1960s, but had been unoccupied for nearly a decade.
- The project consisted of a complete gut rehabilitation.
- MH Professional Engineering served as the lead lighting designers for the project, coordinating the design with the Owner for energy efficiency and lighting controls, and coordinating with architectural aspects of ceilings.



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OFFICE BUILDING PROJECT EXPERIENCE

CURTAIN WALL AND FAÇADE REPLACEMENT STUDY, 44 HOLLAND AVENUE

Albany, NY

- Provided the mechanical portions of a program report for replacing the façade of an 8-story building with perimeter console fan coil units including a cost estimate for the replacement of these units.
- Worked with a local testing and balancing contractor to conduct an existing airflow survey to verify the existing air handling units supplied adequate ventilation flowrates to meet the governing mechanical code if the existing operable windows were eliminated.

