



David H. Mahoney, PE, CPE
Principal - Mechanical Engineer – Project Manager

EDUCATION

University of Massachusetts Lowell, BS, Mechanical Engineering

REGISTRATION/PROFESSIONAL AFFILIATIONS

Registered Professional Engineer in MA #46846

Certified Plant Engineer (CPE) by the Association of Facilities Engineers (AFE) # 4859

Mr. Mahoney is a Mechanical Engineer at CSI Engineering with over 12 years of building HVAC systems experience, including site surveys, system assessment, master planning, energy analysis, building design, construction administration, start-up and commissioning of HVAC systems. Mr. Mahoney has performed these services for K-12 schools, colleges, hospitals, industrial facilities, office buildings, a variety of municipal and transportation-related buildings and numerous other types of facilities.

RELEVANT EXPERIENCE

Healthcare Facilities

Interventional Spine Medicine, Rye, NH

HVAC design for the renovation and addition to an existing abandoned building ure

Boston University Medical Center, Preston Building, Boston, MA

Design and construction administration services for mechanical system infrastructure upgrades to the Preston Building. Work included the design of hot and chilled water supply and return piping to support each floor, new steam to hot water converters, pumps, and associated equipment.

UMass Medical School, Various Mechanical System Upgrade Projects on the Jamaica Plain, MA Campus

HVAC study and design services for various upgrade projects on the JP campus including renovations to a number of lab and office spaces on various floors for the State Laboratory Institute and the evaluation of the HVAC system serving the Stable Building.

UMass Medical School, Air Handling Unit Survey, Worcester, MA

Survey and assessment of thirty-one of the school's existing air handling units. The report provided the University with an evaluation and recommendations for the existing air handling units and all their associated components. This project was another step in the University's infrastructure modernization and contribution to the campus modernization plan.

UMass Medical School, Rooftop Unit Replacement, Worcester, MA

HVAC services for a study to replace the existing HVAC air-handling equipment (supply, return, and exhaust) currently housed on Medical School Level 8 and Library penthouses. The replacement scheme will study the feasibility of housing the rooftop units in various enclosures and alternative locations.

UMass Memorial Medical Center, Coil Replacement Project, Worcester, MA

HVAC services for Phase 2 of the UMMC Cooling Coil replacement project. Services included design of new systems and documentation of existing cross connection ductwork for partial backup capability for air handling units during unit refurbishment or emergency.

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College Facilities

MIT University Building 26, Cambridge, MA

HVAC design and construction administration for the retrofit of (3) laboratory spaces for MIT University.

UNH Jenkins Court, Durham, NH

HVAC design for a new (4) story apartment building at the University of New Hampshire.

UMASS Lowell, Lowell, MA

HVAC study and re-design for an existing gas fired boiler installation.

Wentworth Institute of Technology, Piping Study for new Residence Building , Boston, MA

HVAC study of the building's main piping of the heat pumps systems. The study outlines the findings and provides options and recommendations to correct the issues with this new building.

Wentworth Institute of Technology, Ductwork Riser Study for new Residence Building , Boston, MA

HVAC study of the building's new kitchen and toilet exhaust risers. The study outlines the findings and provides options and recommendations to correct the issues with this new building.

Harvard Medical School, Generator Relocation and Replacement, Boston, MA

Designed new fuel oil pump, piping and fire pumps systems to service and work directly with the new generator for the LHRRB building.

Boston College, Lyons Hall Dining Commons, Chestnut Hill, MA

HVAC study, design, bidding and construction services to replace the rooftop unit serving the Lyons Hall dining commons.

Cape Cod Community College, New Technology Building, Barnstable, MA

Feasibility study for the construction of a new technology building of approximately 24,000 SF containing classrooms, state-of-the-art lecture halls, and office space. Services included an investigation of "green building" technology such as photovoltaics for use in the new building.

Emmanuel College, New Student Recreation Center, Boston, MA

Study/report, design and construction phase services for a new recreation facility including a 1200-person capacity gym, exercise areas, offices, cafeteria and common areas. A new central heating plant was designed.

Massachusetts Bay Community College, Auditorium, Wellesley, MA

Evaluation of the HVAC system to determine the proper heating and cooling loads to maintain temperatures between 72 °F and 76 °F, investigation of the capacities of the existing package air conditioner and cooling tower, and the development of a report with recommendations for repairs and cost estimates.

Massachusetts Bay Community College, New Fitness Center & Bookstore, Framingham, MA

HVAC system study and design for a new fitness center and relocation of the existing bookstore, including the demolition of existing equipment and installation of new HVAC equipment.

North Shore Community College, New Academic Building, Danvers, MA

Design of HVAC systems in the new 98,000 SF academic building containing classrooms, labs, a library and other multi-use spaces.

Northern Essex Community College, Gymnasium Building, Haverhill, MA

Design to convert two air handling units, serving the gymnasium, from electric heat to gas heat. Design included the replacement of the existing electric heating coils in the air handling units with new hot water heating coils,

installation of new high efficiency gas-fired boilers, gas piping, breeching and combustion air, hot water piping and pumps, and controls.

Simmons College, MEP Systems Evaluation of Commonwealth Avenue Buildings, Boston, MA

Review of the existing HVAC systems within eight (8) buildings owned by Simmons College, for proposed renovations to the facilities.

Simmons College, Auditorium Conversion, Boston, MA

Design for renovations to the Auditorium and various spaces on the 3rd floor of Simmons Hall to convert it into a Conference Center, including the build-out of new meeting space, modifications to an existing control booth for specialized lighting and sound control, and build-out of a catering kitchen. HVAC engineering included the design of a new HVAC system to support the Conference Center, to support up to 300 people.

Westfield State College, New Residence Hall, Westfield, MA

HVAC design for a new 119,500 SF residence hall to include 78 apartment style units with a common room, kitchen, bedrooms and bathrooms. The new facility will also include a Resident Director's apartment, mailroom, laundry, convenience shop, lounge, student activity areas and facility management space.

Education Facilities

Boston Ballet, Boston, MA

HVAC facility assessment of a 5-story ballet studio. Work included a site survey to determine the condition of the HVAC systems.

Chelmsford Public Schools, Existing Conditions Study in 3 Schools, Chelmsford, MA

Survey and preliminary schematics of the HVAC systems in two middle schools and one high school.

Dennett Elementary School, Plympton, MA

Study and design to modernize this existing school building including the replacement of the MEP systems in their entirety and construction of a new addition.

Early Childhood Development Center, Franklin, MA

HVAC design for the construction of a new 18,200 SF Early Childhood Development Center to be constructed adjacent to an existing school (Horace Mann School).

Memorial Elementary School, Renovation/Expansion, Medfield, MA

Design and construction phase services to modernize this existing school building including the replacement of the MEP systems in their entirety and construction of a new addition.

Hosmer School, Renovation/Expansion, Watertown, MA

HVAC design for renovations and the construction of a new 12,000 SF addition to the school. Work included replacement of hot water circulation pumps, improvements to the heating control system and removal of the underground fuel oil tank.

New Medway High School, Medway, MA

HVAC design for construction of a new 190,000 SF high school including a new 8,800 SF auditorium. The ventilation and air conditioning systems were designed with acoustical considerations.

Phillips School Renovation, Watertown, MA

HVAC design to convert offices into open space and convert several classrooms on the second floor into office space totalling 5,000 SF.

Walker Elementary School & Taunton High School, Taunton, MA

Mechanical survey and report of the High School and Walker Elementary School in Taunton, MA. The intent of the project was to survey the existing system conditions at each facility and supply a detailed report on the mechanical and electrical systems with recommendations for system repairs and/or replacements.

Watertown High School, Watertown, MA

Existing conditions survey and design to renovate this school building. HVAC design included the replacement of the existing oil fired steam boilers and provisions for an adequate combustion air system to serve the school for many years to come.

Gardner Public Schools, MEP Projects at Various Schools, Gardner, MA

Mechanical design for several projects under the Town of Gardner's 2000-2001 Capital Improvements Plan.

Prospect School, Gardner, MA

HVAC design for the replacement of boilers within this existing school facility.

Housing Facilities

Boston Housing Authority, Charlestown, MA

Mechanical design for the replacement and repair of the existing boilers for 55 Bunker Hill Street site.

Glenridge Senior Living, Atkinson, NH

HVAC design for (3) new senior living apartment buildings.

Barressi Heights, Bates Towers, & Bishop EID Elderly Housing, Fall River, MA

HVAC renovations of existing elderly housing authority for the addition of ADA toilet rooms.

Hyannis Hostel, Hyannis, MA

HVAC design for the retrofit of (3) existing buildings being converted into hostel style buildings.

Boston Housing Authority Franklin Field, Dorchester, MA

Mechanical design for the renovation of the existing central domestic hot water plant for over 300 apartments.

Marriott Residence, New Lake front Vacation Home, Mirror Lake, NH

HVAC design for a new 12,000 SF vacation home. Design included a new boiler plant, chiller plant, an energy recovery unit, humidification, de-humidification and controls.

Hampton Place, Retirement Community 1000 FT of Underground Condenser Water, Chestnut Hill, MA

HVAC design of the communities' underground condenser water piping for their heat pump systems. This design was done originally for the emergency issues and done for long term correction of the issues.

Boston Housing Authority, Gallivan Boulevard Housing Development, Boston, MA

Mechanical systems renovation of heating and domestic hot water systems for the multi-building housing development.

Harrison Avenue Residential Complex, Boston, MA

HVAC design of a new 150,000 SF residential complex containing approximately 130 units in one 8-story building in down Boston. The complex will also include 28,000 SF of below grade parking on 3-levels.

Military Facilities

United States Coast Guard, Ft. Wadsworth, NY

HVAC design to renovate the systems in the gymnasium building. Services included plans, specifications, and cost estimates.

Municipal Facilities

Seabrook Recreation Center AC Project, Seabrook, NH

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This project include a new 30 ton rooftop unit for cooling only, ductsox's for air distribution and controls that integrated with the existing system. The electrical was upgrade to include a tie in for a temp generator and additional panels for the new rooftop unit.

State Police Facility, Medford, MA

HVAC design for the renovation of the State Police Barracks in Medford, MA.

EMS Facility, Colebrook, NH

HVAC design for a new Emergency Services building in New Hampshire.

GSA US Citizenship and Immigration Services, Bedford, NH

HVAC design for a new (2) story Immigration building in New Hampshire.

Painters Union Hall, Springfield, NJ

HVAC design for the renovation of 10,000 sq. ft. of the painters union hall in New Jersey.

Boys and Girls Club, Facilities Needs Study, Stoneham, MA

Engineering services for a study of the Club's existing mechanical systems and provide recommendations to improve the ventilation systems in the building.

Everett Department of Public Works/Parks Facility, Everett, MA

HVAC design for a new DPW/Parks facility including a new main DPW garage of 25,665 SF.

Jamestown Wastewater Treatment Plant, Jamestown, RI

HVAC design for upgrades to the existing Waste Water Treatment Plant Control Building, site upgrades and ancillary engineering required for modifications to the Clarifier Pump Room and Disinfection Room also located on site. Additional ventilation will be designed for specialized air change ventilation systems being installed.

Laboure Center, South Boston, MA

HVAC design for construction of a new multi-story facility to be utilized as a center for the entire community including a general assembly area, day care facility, educational facilities, employee facilities and general rest rooms. This project was performed as part of a design-build team.

St. Francis House, Boston, MA

HVAC design services for upgrades to the existing state-run facility for homeless people. Renovations included a new boiler and chiller plant to be located in the penthouse of the building, and HEPA filtration for the first floor, mezzanine and second floor (10 total). The system will be designed to accommodate future renovations of the spaces.

Westford Public Works Facility, Westford, MA

Design and construction services for a new 70,000 SF public works facility containing office areas, a garage space and an animal control pound.

Wheeler Memorial Library, Orange, MA

Study and schematic design services for proposed renovations to the existing 6,000 SF library as well as the construction of a new 12,000 SF addition. The project included new mechanical, electrical, plumbing, and fire protection systems throughout the library and a new central boiler plant.

Transportation Facilities

CrossTown Parking Facility, Boston, MA

HVAC design for the construction of a new 212,000 SF, 5 level plus grade, 650 car parking facility. The intent of the project was to design base building mechanical and electrical systems to support the parking facility and future adjoining retail businesses.

Winooski, VT Parking Structure

HVAC design for the construction of a new 390,000 SF parking facility to accommodate up to 1,300 cars.

Industrial Facilities

Foster Corporation, Putnam, CT

HVAC design services for a new 3,200 sq. ft. prefabricated office and production building.

Koch Membrane Systems, Inc., Wilmington, MA

Provided HVAC design scope of work specifications for HVAC renovations.

Rohm and Haas, Study of Existing Office Space, North Andover, MA

HVAC study of the building's existing office space and the HVAC systems that serviced it. The study outlines the findings and provides options and recommendations to correct the issues with this new building.

Solar Seal, Design Built for New Ventilation Systems in Warehouse, South Easton, MA

HVAC design for new ventilation system for their warehouse. The ventilation system is also capable of capturing excess heat off their process equipment and distributing it throughout the warehouse.

Cytec Corporation, Redundant Manufacturing Facility, Londonderry, NH

HVAC design for renovations to an existing manufacturing facility to accommodate new office/manufacturing space. The upgrades consisted of full height wall offices, open offices, kitchenette, conference rooms, restrooms, data room, mixing rooms, manufacturing rooms and QC lab. The facility was also designed with full redundancy.

Commercial

Discover Portsmouth Center, Portsmouth, NH

Facility Assessment - Performed a complete site inspection, review and evaluation of the building mechanical systems. Provide a full report describing the existing conditions, recommendations for the existing systems and replacements, cost estimates for the recommendations.

Energy Conservation Analysis – Reviewed the building existing utility bills for the last four years, built an energy model of building existing mechanical and electrical systems. Provide a conceptual design for new mechanical and electrical systems. Provided new energy model with the higher efficient equipment with improved architectural building updates. Provide cost estimates and return on investment numbers for each system and building upgrade and a overall return on investment for the entire project.

The Balsams Hotel, NH

Renovations to the existing theater and basement offices.

This project included a full mechanical and electrical design of the basement level of the existing Balsams Hotel. A 200 seat theater with stage, a waiting area for the theater, two large offices/function areas, new toilet rooms, etc... The entire electric systems (power distribution from main panel, lighting and controls) for these areas were

redone. The mechanical system were upgrade to meet present day codes, this include five energy recovery units, air conditioning, steam to hot water converters.

Lunette Optics, Dedham, MA

HVAC design for a new eyeglass store within the Legacy Place Mall in Dedham, MA.

Baying Communications, Portsmouth, NH

HVAC design for a new (2) story addition to an existing office building.

NDN Realty Trust, Meredith, NH

HVAC design for a new (3) story office building.

Amos Wash & Dry, Portsmouth, NH

HVAC design for a new Laundromat.

TNT Fireworks, Londonderry, NH

HVAC design for a new fireworks retail store fit out.

Lunette Optics, Dedham, MA

HVAC design for a new eyeglass store within the Legacy Place Mall in Dedham, MA.

Market Basket Warehouse, Upgrade of Building's HVAC Systems, Tewksbury, MA

HVAC design for renovations to an existing 600,000 SF facility with a 150,000 SF addition. The design was for new more energy efficient gas fire roof top units, with new exhaust fans to maintain a proper positive pressure and over 6,000 LF of Ductsox for the air distribution.

North Shore Design Center (NSDC), Mixed Use Building, Rowley, MA

New construction for a two story 100,000 SF mixed use building. The HVAC design include multiple boiler plants and roof top units for each of the tenant spaces, multiple boiler plants for the owner's space and the warehouses and radiant systems for the entire building including the snow melt system for the 80,000 SF parking lots.

The TJX Companies, Upgrade of the Existing M-1 Plan for TJ Maxx and Marshalls

HVAC re-design for their standard M-1 drawing for the TJ Maxx and Marshalls stores. The re-design includes upgrading the roof top unit to more energy efficient units, showing the ductwork distribution with correct fitting, and reducing the overall number of roof top units.

The TJX Companies, TJ Maxx Vestibule Study

TJ Maxx was having issues with outside air infiltration at some of their store. The study provide options and recommendation to correct these issues.

The TJX Companies, Renovation of TJ Maxx, Willimantic, CT

HVAC design for renovations to an existing 30,000 SF facility. The design was for new more energy efficient gas fire roof top units. This project was design with two phase, first was the main sales floor and the second was for the support areas.

The TJX Companies, HomeGoods Study, Nashua, NH

This study was done to evaluate the existing Comp USA store's HVAC systems. The evaluation was to determine if the existing systems should remain or be removed. This study provides options and recommendation for the existing HVAC systems.

CVS Pharmacy, Various Locations throughout Massachusetts

HVAC system upgrades within various retail facilities. Work included calculating building loads, selection of equipment, and sizing ductwork and piping.

Restaurants

The Cottage, Wellesley, MA

HVAC design for new 6,000 SF restaurant being constructed inside existing mixed use building. The design includes packaged rooftop units for heating and cooling, make-up air and exhaust for kitchen hood and controls.

Alma Nove Restaurant, Hingham, MA

HVAC design for a new restaurant within the Hingham Shipyard development.

Aquataine Restaurant, Dedham, MA

HVAC design for a new restaurant within the Legacy Place Mall in Dedham, MA.

Metropolitian Club Restaurant, Dedham, MA

HVAC design for a new restaurant within the Legacy Place Mall in Dedham, MA.

J.P. Licks, Dedham, MA

HVAC design for a new ice cream parlor within the Legacy Place Mall in Dedham, MA.

RiRa Irish Pub, Portsmouth, NH

HVAC design for a new two story restaurant located in downtown Portsmouth.

Temptations Cafe, Brookline, MA

HVAC design for a new restaurant within the Legacy Place Mall in Dedham, MA.

Doc's, Long Wharf, Boston, MA

The building will be replacing existing pavilion across from the NE Aquarium. HVAC design for new 3,000 SF restaurant. The design includes packaged rooftop units for heating and cooling, make-up air and exhaust for kitchen hood and controls.

Bear Creek Coffee Shop, Rochester, NH

HVAC design for new 500 SF coffee shop. The design includes split system with an above ceiling mounted furnace for heating and cooling and controls.

Banks

Salem CO-Operative Bank, Methuen, MA

HVAC design for the new single story bank

Riverbank, Lawrence, MA

HVAC design for new bank. The design includes a constant volume split system with above ceiling mounted furnaces for heating and cooling and controls.

Provident Bank, Exeter, NH

HVAC design for the new single story bank

River Bank, Derry, NH

HVAC design for new 3,000 SF bank. The design includes a constant volume split system with above ceiling mounted furnaces for heating and cooling and controls.

Federal Credit Union, Portsmouth, NH

New three story addition to existing mixed use building. The designed HVAC systems for the new addition include a boiler plant and a variable volume air distribution system.

Great Water Bank, NH

Plumbing and Fire Protection design for a new two story bank.

Commissioning Projects

Boston Scientific, Quincy, MA

LEED commissioning for conversion of the 1.4 million SF former Jordan Marsh warehouse into a new multi-use customer fulfillment facility for a major biomedical company. The project was broken up onto four separate projects, including the E-Beam Sterilizer, Concourse, Cafeteria, and Quality Assurance.

Brooks School New Athletic Facility, North Andover, MA

Commissioning of the HVAC/BAS systems in this new \$7 million, 56,000 SF athletic facility with a 500-seat gymnasium, training suite, wrestling room and fitness center. The 2-story facility is used year-round and operated as a camp during the summer months. Work included the observation of systems being tested and the development of Functional Performance Test Narratives and Corrective Action Log.

Cushing Academy, New Academic Building & Central Plant Improvements, Ashburnham, MA

Commissioning of MEP/FP systems for a new, 50,000 SF academic building. The project also included commissioning of the Campus Central Plant expansion, including added steam generation capacity, a new water cooled centrifugal chiller and tower, plate and frame heat exchanger, emergency generator systems, and central DDC controls in support of an increasing campus load and larger distribution system.

Millennium Pharmaceuticals Phase I Energy Study, Cambridge, MA

Mechanical and Electrical energy study of two buildings on the Lansdowne Street campus. RDK investigated and documented building occupancy usage and energy consumption to determine potential energy savings. Cost estimates for system set-point reprogramming and system retrofitting as energy savings options were provided.

New Eisai Andover Research Center Andover, MA

Commissioning of a new \$50 million, 140,000 GSF state-of-the-art pharmacology research facility, containing highly-automated chemistry, biology and drug safety disposition laboratories.

Harvard Law School, Energy Survey, Cambridge, MA

Engineering services for a survey of energy conditions at 5-buildings on the Harvard Law School campus, including Griswold Hall (40,792 SF), Areeda Hall (43,530 SF), Langdell Hall (203,421 SF), Austin Hall (59,042 SF), and Hastings Hall (63,984 SF). Work included the review of utility consumption, utility benchmarking, profiling and ECM alternatives, followed up with a report outlining solutions, forecasts, and budgets.

Harvard University Business School, Baker Library/Academic Center, Cambridge, MA

Commissioning services for renovation/expansion of an historic library/academic building, from 130,000 to 160,000 SF. Included in the commissioning are building systems for a state-of-the-art conservation laboratory to preserve priceless manuscripts and archival materials, as well as new seminar and conference facilities and offices.

Harvard University Business School Hamilton Hall LEED Cx, Boston, MA

LEED commissioning services for the gut renovation of this 47,500 SF history dormitory building containing 74 student rooms, each with private bath, common spaces on each floor including study areas with kitchens, and one main common room with a kitchen for student use and one for catering events located on the first floor.

Newton South High School, Expansion/Renovation, Newton, MA

Commissioning of HVAC, Electrical and Plumbing building systems, following construction of a \$55 million renovation/expansion of Newton's South High School. Evaluation of functional performance and dynamic operation of systems. In addition to evaluation of the existence/source of functional deficiencies and recommendation of remedies, work to optimize performance of the new school also included identification of opportunities to improve energy efficiency/reduce perating costs and assistance in fine tuning operation of the new BAS.

Northeast Utilities Call Center/Data Center Commissioning, Windsor, CT

Commissioning services to provide functional performance tests, testing, adjusting, and balancing (TAB), of MEP systems within this 165,000 SF building. This Call Center/Data Center was completely renovated and equipped with specialized systems, including underfloor distribution systems and packaged boilers. These functional performance tests highlighted any potential problems and deficiencies with the systems to determine if repairs/adjustments would be needed. Services also included the facilitation of Commissioning Coordination Meetings.

Worcester Polytechnic Institute, New Admissions Building, Worcester, MA

Commissioning Engineer for the review of HVAC systems within this new, 2-story, 16,000 SF building containing a large reception area/lobby, offices, and a 40-person presentation room. The project is aiming for LEED certification.