

Michael A. Keim, PE

Vice President Engineering



Education: B.S.C.E. Civil Engineering, Rensselaer Polytechnic Institute

Registrations: Professional Engineer: NY and 30 additional states

Years of Experience: 40 **Years with Firm:** 1

Affiliations & Memberships: Rochester Engineering Society
National Civil Engineering Society
American Society of Civil Engineers American Concrete Institute

Mr. Keim has more than 40 years of experience in structural analysis and design of bridges, retaining walls, high mast lighting and other transportation facilities, plus buildings, foundations, and underground structures. He possesses extensive experience in structural steel and reinforced concrete and masonry design of educational, commercial, municipal and infra-structure facilities, plus forensic evaluation of existing building structures. He has special knowledge in seismic design of building structures and has given several presentations on the subject. Mr. Keim has won a number of awards for various bridge designs throughout Western New York State, is familiar with the new technology for plastic bridges, and has taught at the Rochester Institute of Technology.

PROJECT EXPERIENCE

Buffalo Creek & Gauley Flood Repairs, Clay County Business Development Authority, Clay County, WV

Mr. Keim provided final structural design for the damaged railroad bridges and flood damaged embankment rehabilitation on this almost \$6 million dollar FEMA funded project. He also provided construction observation for this project.

Boyertown Transload Facility, Boyertown, PA

Mr. Keim provided the structural design for a concrete rail car unloading pit for this railroad transload facility, located on the Eastern Berks Gateway Railroad.

Structural Design of Park Ridge Hospice Unity Health System, Park Ridge Hospital, Rochester, New York

Mr. Keim was responsible for the structural design of a 10,000 SF wood framed, eleven - (11) bed in-patient facility for Unity Health System. The facility is located on a site in close proximity to Park Ridge Hospital. The estimated cost to construct the hospice care facility was approximately \$3,000,000. Mr. Keim evaluated a number of cost-saving alternatives while at the same time maintaining project quality standards.



National Institutes of Health, Bethesda, MD

Mr. Keim was responsible for the design of the cable tie-down system for eight (8) new silencer exhaust stacks 64" x 72" x 15'0" high. Project design included modifications to the existing roof steel at an elevation of 400 feet above grade. Work also included modifications of the animal exhaust stack brackets for the insertion of silencer units.

LeRoy Medical Facility, LeRoy, New York

Mr. Keim oversaw the structural design of this two story 12,000 sf masonry and steel medical office building. The work included construction support services, including on site meetings and shop drawing review.

Various Projects, Key Bank of New York, Rochester, Buffalo and Syracuse, New York 1994 - 1998

Mr. Keim was responsible as a construction loan monitor at the following Key Bank of New York projects: ECH Housing Inc., Candlelight Housing Project, Regal Cinema Theatre, VA Medical Center, DePaul Community Facility, Lattimore Medical Center, and the DePaul Adult Home. Overall, Mr. Keim was responsible for approximately \$30 million of construction work for Key Bank of New York.

Chandler Medical Facility, Batavia, New York 1993

Mr. Keim provided structural design for this three story, 14,500 s.f. steel medical office building. Mr. Keim's responsibilities included onsite inspection and construction administration.

Irondequoit South Bay Project Development, Penfield, New York 1996 - 1997

Mr. Keim was responsible for structural assessment and design for the buildout of three office buildings and an indoor golf/sports/medicine complex. As a result of Mr. Keim's involvement in this project, he has become familiar with the unique topographical and geotechnical issues impacting construction activity on Irondequoit Bay.

Wooster Science Building Renovations, State University of New York at New Paltz State University Construction Fund, New Paltz, New York, 2011

Mr. Keim's tasks on this project included structural work as part of the renovations on the Wooster Science Building. The structural work is rather significant as it included an extensive materials testing program, seismic retrofits, a mechanical penthouse being added to the roof, a building addition to the West and North Side of the building, reconfiguration of the exterior of the building with new North and South entries, skylight openings to let light throughout the core of the building, new elevator and bridge connection to the Engineering Building. Wooster Hall is LEED certified

Thompson Hall Structural Design and Site Plan

New York State Dormitory Authority, SUNY Brockport, Brockport, New York

Mr. Keim performed the structural design, including foundation for the new elevator, structural steel framing, entry canopies, verification of roof capacity, interior and exterior lintels and removal of bearing walls during the renovation of this 80,000 SF dormitory. Work included site plan work for a new sidewalk and elevator pit.



Gravity Thickener Building,

Village of Medina Wastewater Treatment Plant, Medina, New York

Provided structural work for the building including analysis, design and drawings of the steel framework for the support of the spancrete floor and stairwell, craneway, bridge support walkway, sludge chamber adjacent to the building, in ground tanks, foundation slab building renovations, and evaluation of the existing concrete walls.

Wastewater Treatment Plant Improvements

Village of Spencerport, Spencerport, New York

Oversaw the design and analysis of various reinforced concrete structures, which were located underground, utilizing numerous computer methods. Improvements to the plant included an entrance chamber, grit chamber, 24 ft. diameter clarifier, influent and effluent box, scum pit, chlorine contact chamber, pump house and flow channels.

Armory Addition, Rochester, NY

Keim was the Structural Engineer for this OGS project (42280), which required the design of a vehicle maintenance entry slab to the armory addition. Sidewalks and entry aprons to the armory addition were designed as part of the civil work.

Structural Design of Repairs Station 55, Railroad Street, Rochester, New York

Station 55 is a renovated 60,000 SF warehouse that was originally built in the 1880's. The structure consists of large (16"x16") Chestnut timber frame which supports an exoskeleton of Salmon brick. Mr. Keim's role in Station 55 consisted of the design of repairs to fire damaged floors, structural reinforcement for lateral loads, design of exterior pilasters and shoring of the roof with TJI's to prevent collapse.

The interior space of station 55 was an adaptive re-use of the building consisting of modular storage units in the lower level, open-air market stalls on the first floor, and artist lofts on the second floor. Mr. Keim was responsible for the design of a three story elevator to meet ADA requirements.

Wastewater Treatment Plant Improvements, Village of Medina, Medina, New York

Oversaw the structural work for improvements to this wastewater treatment plant. As Senior Project Engineer, performed analysis, oversaw the design, and prepared drawings for various structures including the primary digester modifications, two 45 ft diameter secondary clarifiers, rapid mixer and sludge chamber, rotating bio discs, sludge trough and pier supports, wall baffle of the effluent trough, grit chamber and channel, effluent chambers and scum box, microscreen tank, overflow trough, overflow diversion chamber, outflow channel and thickener tanks. This treatment unit is an underground reinforced concrete structure designed in accordance with the methods prescribed by the Portland Cement Association and channel, effluent chambers and scum box, microscreen tank, overflow trough, overflow diversion chamber, outflow channel and thickener tanks

Sewer System Office Building, Town of Springwater, New York

Mr. Keim was responsible for the foundation and building design of a one story 27' X 55' building of wood/masonry construction with wood trusses.



University at Buffalo, SUNY, New York State Dormitory Authority, Buffalo, New York

Mr. Keim was responsible for design modifications to the existing steel roof framing to accommodate the installation of 20-ton HVAC units on the roofs of the Richmond Building and the Spaulding Building. Work also included foundation design for an at-grade large packaged Chiller Boiler.

SUCF-SUNY at Geneseo, Geneseo, NY

Mr. Keim was responsible for the design of the site retaining walls for the vehicle and service-related vehicles and pedestrian sidewalks connecting to the maintenance facility.

Eastman Kodak Company (Royal Environmental) – Kodak Park Demolition

Mr. Keim prepared a structural engineering survey for the demolition of Building 201 (four-stories) and is currently providing engineering surveys for the demolition of Building 135 and Building 140. He also, developed a structural procedure (cable tie-off) for removal of demolition material on the roof of Building 201. The procedure, approved by LeChase Construction Services, saved the client thousands of dollars in removal costs over conventional methods.

Gates Public Library, Rochester, NY

Mr. Keim performed an inspection for the Gates Public Library Board which revealed gaps between the wall and floor, heaves around column posts, and cracks in the floor of the public hallway into the library. The floor study consisted of a field investigation, soil and material tests and structural evaluation. The study had to be completed within a short time span and now work could be done during library hours. Upon completion of inspection a report was prepared that included our findings and recommendations.

Midtown Underground Parking Garage, Rochester, NY

The Midtown Underground Parking Garage was investigated due to the deteriorated condition of the garage. Concrete walls, beams and floors were cracked, spalled, and delaminated, and the bar reinforcing was exposed in many areas showing signs of significant corrosion. Larsen's role in the investigation was to perform an analysis of the structural elements, including checking the original design for any structural deficiencies.

Town of Avon Opera Building, Avon, NY

Mr. Keim performed a facilities investigation and wrote a report for the Town of Avon. The Opera House is a three-story building at 17-23 Genesee Street with a basement below grade. The purpose of the report was to determine the condition and feasibility of converting this building to a Town Hall.

911 Emergency Facility, Rochester, NY

Oversaw the structural design and drafting for this 16,000 s.f. county facility. Also provided construction support services, including on-site meetings and shop drawing review.

DP-28, DP-9 North System Tunnels, and DP-6 Ocean Outfall Tunnel, Deer Island Sewage Treatment Facilities Related Construction, MWRA, Boston, MA



At the Deer Island Facilities for the Boston Harbor Cleanup Project, Mr. Keim was responsible for all structural design facets for the following: Outfall Bypass Effluent Tunnel, Cryogenic Compressor Building, Secondary Operations Building, Electrical Buildings A, B, C, and Equipment pads throughout the site.

