

EDUCATION

MS in Civil Engineering, University of California, Davis- 1985
B.E. (Civil) N.E.D University of Engineering & Technology, Karachi, Pakistan, 1981

CONTINUING EDUCATION UNITS

2018 – Roofing Design Conference, Kemper Roofing Systems Green Roof
2017 – Controlling Building Envelope Air Leakage, TREMCO
2015 – 40 Hours In-School Training for ICC Structural Welding Inspection
2014 – NFIP Flood Loss Prevention, Smart Vent
2014 – Post Hurricane Sandy Legislation-Recent Local Laws
2014 – Post Hurricane Sandy Construction Standards in Flood Zones
2013 – NYC Special Inspection Agency Accreditation ISO 17020/AC291 Training
2007 – Introduction to Controlled Inspection, SEAONY
2007 – Seven Hour Refresher Course for Site Safety Manager
2005 – Advanced Structural Analysis and Design using STAAD.Pro Computer Software
2005 – Façade Inspection, International Concrete Repair Institute
2004 – Storm Water Modeling Workshop



PROFESSIONAL AFFILIATIONS/REGISTRATIONS

Professional Engineer-New York State (# 064032-1) 1987
Professional Engineer-New Jersey (# 24GE04723800) 2008
Professional Engineer-PA State (# 074636) 2007
Site Safety Manager-NYCDOB-2001 #1306

EXPERIENCE SUMMARY

Mr. Tai has 30 years of experience in **concrete and masonry restoration; structural rehabilitation design;** load ratings; dunnage design; shoring design; demolition design; **forensic engineering; investigative probes; infrared investigation; ground penetration radars;** vibration monitoring; geotechnical investigation, etc. Over the years, he has provided innovative design solutions to **complex concrete and steel related problems in existing buildings.** Additionally, he is a certified Site Safety Manager in NYC and has extensively worked on agency projects. Some of his relevant project experience includes:

Roosevelt Island Operating Corporation (RIOC) As-Needed Term Agreement (2014-2021) – Principal Engineer responsible various projects including for **brick façade restoration;** roof replacement; multi-deck Motorgate Parking Garage restoration; water infiltration investigation; preparation of construction document and providing Construction Support Services. Motorgate Parking Garage restoration work includes developing repair details for precast-T-Beams uplifting using post tension method. Provide details for joint repairs using FRP method, Floor and T-beam repair using gout injection & GCP method.

NYU Langone Medical Center, New York, NY – Term Agreement (2011-2021) – Principal Engineer responsible for various **hospital buildings brick façade assessment and restoration;** roof replacements; water infiltration issues; etc. Responsible for and preparation of construction documents; bid assistance; construction management; etc.

NYC Dept. of Health & Mental Hygiene (DSNY) – (2019) – Principal Engineer responsible for providing ADA (American Disability Act) compliance/Deficiency Report for TWENTYSEVEN DOHMH Facilities in the FIVE-Boroughs.

Roosevelt Island Operating Corporation RIOC – Design of New Elevator Shaft (Manhattan Station) at 60th Street & 2nd Avenue, Manhattan, NY (2016-2018) - Principal Structural Engineer responsible for providing structural design, drawings and CSS of new elevator shaft including pit foundations, connections to existing passages etc. provided drawings based on construction in two phases – Phase-1 for the construction of new elevator shaft and Phase-II for demolition of existing shaft and connection of new shaft with existing passages.

NYC DCAS Local Law 11/98 Cycle 8 Inspection & Technical Reports (2016-2017) - Principal Structural Engineer responsible for conducting high rise buildings inspection using binocular and movable scaffold in Brooklyn, NY.

NEW YORK

NEW JERSEY

DANY - District Attorney Office, NY – Structural Rehabilitation of IT Room at 80 Center Street, Manhattan, NY (2016-2017) - Principal Structural Engineer responsible for load rating of existing 4th floor slab for new equipment. Existing slab was not capable of taking new equipment load. Therefore, provided new supporting system independent of existing slab and connected to the existing columns

NYCHA - New York City Housing Authority Local Law 11/98 Cycle 6, 7 & 8 Inspection & Technical Reports (2006-2016) - Principal Structural Engineer responsible for inspection per NYC Local Law 11/98 requirement for **200+ NYCHA buildings**. Inspection & Technical Reports using binocular and movable scaffold in Manhattan, Staten Island & Brooklyn.

Dunnage Design at Roof Top for New AHU & Boiler Pad design in Basement for Hunter College Campus School at 71 East 94th Street, Manhattan NY (2016-2018) - Principal Engineer responsible for 1) The inspection of existing structure condition, load rating of existing structure to support new AHU & Dunnage weight, preparation of design & drawings including opening details for supply & return air ducts in existing slab. 2) Detail development of concrete foundation for boilers, water tanks and pumps based on loading and sizes of equipment provided by the client.

Opening (15'x25') in Existing Slab to Bring New Generator in the Basement of 88 Pine Street, NYC (2017) - Principal Engineer responsible for inspection of existing structure, providing calculations / drawings for sequence of demolition of existing structure and providing new Principal beams and concrete slab after completion of generator work (cover up) this include providing details of connections between existing and new structure and shoring of existing structure during slab opening.

NYPD - Structural Design of Printing Press Foundation at 11 Front Street, Brooklyn, NY (2016) - Principal Engineer responsible to provide structural design & drawings of slab on grade foundation for printing press. The size of the foundation was based on Heidelberg specifications of press and soil investigation report.

NYPD – Floor Settlement / Wall Deterioration at 26th Precinct & ESU Garage – Design & CSS (2016) - Principal Engineer responsible for design for floor & brick wall repairs and prepare construction drawings and specifications at 520 West 126th Street. Additionally, rehabilitation details to address the settlement of concrete floor in ESU garage (partially above basement) at 530 West 126th Street. This included load rating of basement slab and providing reinforcement to existing structural steel and slab for new truck load.

PANYNJ - Port Authority of NY&NJ, Intermodal Yard Extension for Port Authority of NY&NJ (2012-2013) - Principal Engineer responsible for inspection of existing structures/area to accommodate new pre-engineered structure for equipment at PNCT Intermodal Yard Expansion. Scope of work includes site verification, architectural & engineering design of new pre-engineered metal buildings, provided design documents and construction support services (review shop drawings).

DASNY - Material Testing Including Concrete Core, Soil Boring & Water Penetration Tests at Lehman College Bronx, NY (2012) - Principal Engineer responsible for conducting AEG conducted materials testing to determine the existing condition of structural concrete, moisture penetration in brick and stone façade and possibly other deficiencies. Obtained ten concrete cores and tested for compressive strength and petrographic analysis per ASTM C-42 & C-856. R-meter was used to locate re-bar before coring. Water penetration testing was done as per ASTM E1105 and infrared Thermography was used by taking thermal images using a FLIR ThermCAM B2 infrared camera to aid in detection of water leakage and moisture presence.

NYPD - Structural Integrity Inspection, Load Rating & Concrete Repair at 11 Front Street, Brooklyn, NY (2009) - Principal Engineer for providing Structural integrity inspection, load rating and concrete repair details for 70,000 sq. ft. maintenance shop. Destructive and non-destructive concrete test were conducted to determine the concrete strength and size & spacing of re-bars. Based on material testing results, load bearing capacity of structural elements were determined. Repair details and specifications were developed for construction.