Chien-Sheng(James) Chen, P.E. LEED AP
Structural Engineer

Project Experience

New York City, School Construction Authority
2013 to 2023

STV Incorporated
1988 to 2012

Education
Master of Engineering, Civil Engineering; City College of New York

Professional Registration
Professional Engineer: New York (#066638/exp. 8/31/24)

LEED AP

OSHA Training

EDUCATION

USACE Thomas Jefferson Hall Library and Learning Center – Lead Structural Engineer
Provided structural engineering services for a new construction of a $75 million library and learning center for the U.S. Army Corps of Engineers (USACE) at the U.S. Military Academy in West Point, NY. We provided structural and foundation design for the new facility. I reviewed the final structural construction documents. The project included an analysis of structural stability including seismic force to meet USACE and Department of Defense minimum (Anti-Terrorism Standards for Building, Unified Facilities Criteria 4-010-01) standards. It also included design to prevent progressive collapse. This project was awarded the 2003 Area Development Award by the Federal Planning Division. (2003 - 2008)

City of Bridgeport Geraldine W. Johnson (North End) Elementary School Engineering Design – Lead Structural Engineer
Managed structural design and construction for a new 103,000-sf elementary school in Bridgeport, CT, housing of 750 pre-kindergarten through eighth grade students. The new building consists of three floors above grade with a lobby level below grade connected to a single-story building that containing a cafeteria, gymnasium, and other administration services. I also guided the design to stabilize the school brownfield with a 23-foot gradation decrease from the south end to the north end. (4/04 - 2010)

NYCSCA High School for Construction Trades, Engineering, and Architecture – Lead Structural Engineer
Lead structural design and construction phase services for the $47.5 million, 160,000-sf high school in Queens, NY, for the New York City School Construction Authority. The facility has a capacity for more than 900 students.

USACE Lou Gross Olympic Sports Facility Design-Build - Structural Engineer
Provided structural engineering design for a new 24,600-sf sports facility at the U.S. Military Academy in West Point, NY, for the U.S. Army Corps of Engineers (USACE). We designed for the $7 million facility that provided the West Point men's gymnastics team with a permanent headquarters and training area, and the rest of the cadet corps with a mixed-use athletic facility located right next door, with basketball courts and space for volleyball, soccer, and other team sports. I coordinated extensively with the West Point

Department of Public Works for code compliance, utility extensions, and on-board review by the department. (2004)

USACE West Point Washington Hall Pantries Renovation – Project Structural Engineer
Performed structural engineering supports for the U.S. Army Corps of Engineers (USACE) to renovate and upgrade the Cadet Mess Hall pantries in Washington Hall of the U.S. Military Academy at West Point, NY. The scope of work included new food service equipment and upgrades of all mechanical, electrical, and plumbing/fire protection systems. (2003)

CTDPW Howell Cheney Regional Vocational Technical School Additions and Renovations - Lead Structural Engineer
Developed structural and foundation design for major renovations and an addition at a vocational school in Manchester, CT, for the Connecticut Department of Public Works (CTDPW). Originally built in 1962, the facility was outdated and the shop wing was not large enough to accommodate the growing number of students. The design added a 3-story, 96,900-sf shop wing and rehabilitated the existing 88,300-sf main classroom wing. (2003)

NYCSCA Curtis High School Restoration, Preservation, and Rehabilitation - Structural Engineer
Performed structural and foundation design for the $26.5 million historic preservation and restoration of a landmark high school in Staten Island, NY, for the New York City School Construction Authority. I responsible for resolving field issues related to the structural during construction. The original structure was built in 1902 and five connecting additions were constructed between 1921 and 1964. (2003)

NYCSCA P.S. 340 Design-Build – Lead Structural Engineer
Provided the foundation design and supervised the design of the modular superstructure for the new $22 million facility in the Bronx, NY. Modular construction methodology was used to create new classroom spaces within a 1-year period, providing rapid response to severe overcrowding in the district. I responsible for coordination with the New York City School Construction Authority and the sub-consultant. I oversaw the sub-consultant design work to ensure that the project progressed on schedule. In 2000, the efforts on this project were recognized with an award for design excellence from the New York Association of Consulting Engineers. (1999 - 2000)

NYCSCA New York City School Inspections - Structural Engineer
Inspected more than 20 schools throughout the five boroughs of New York City. I coordinated with the team architect as well as other engineering disciplines to perform inspections of building façades and parapets. I also reviewed the inspection listings that were compiled by the New York City School Construction Authority and prepared reports detailing for the structural elements, including recommendations to correct deficiencies. (1999)

USACE West Point Cadet Restaurant Revitalization - Project Engineer
Oversaw all phases of structural engineering for the U.S. Army Corps of Engineers (USACE) to rehabilitate the restaurant at the U.S. Military Academy in West Point, NY. I prepared specifications for the structural items for the restaurant. (1994)

AVIATION

JetBlue Yellow Parking Garage Design-Build - Project Structural Engineer
Provided design and construction services for a $60 million, 6-level, 1,500-space parking garage at John F. Kennedy International Airport in Queens, NY. The multi-level parking structure consists of a structural steel frame with precast, prestressed concrete double-tee decks and precast spandrels. I supervised the construction phase of the structural work. I integrated several fast-track packages into the overall schedule while balancing the specific needs of JetBlue and the Port Authority of New York and New Jersey. (9/07 - 10/08)

MAA BWI Airport New International Terminal - Lead Structural Engineer
Performed structural engineering analysis and design for the new Terminal E at Baltimore/Washington International (BWI) Airport for the Maryland Aviation Administration (MAA). We provided the structural design for the $139 million, 2-level facility in conjunction with significant improvements to BWI's terminal roadways, utilities, parking facilities, and public transportation. The 2-level pier extends 650 feet to the north of the existing terminal, with Pier E extending 400 feet into the new airfield perpendicular to the pier extension. The total square footage of the new construction was approximately 365,000 sf. The facility provides six new aircraft gates with the potential to expand to 15 gates as demand warrants. All of the gates are designed to accommodate wide-body aircraft. Both levels of the new pier are linked directly to the rest of the terminal. The upper level of the front of the new pier holds the ticket lobby, with 52 ticket counter positions, airline ticket offices, airline club, concessions, and a variety of traveler services and amenities. The design allows for the future addition of 34 more counter positions as well as curbside baggage conveyors. The lower level houses the baggage claim hall, the arrivals hall, and the offices of the federal inspection agencies, as well as ground transportation services, concessions and the light rail transit station. The baggage claim hall measures 26,000 sf and holds two large baggage claim carousels. The design allows the hall to be almost doubled in size in the future with the addition of two more baggage claim devices. I provided construction services, including attending site meetings and resolving any field condition or contractor issues pertaining to structural work. (1996)

PANYNJ JFK International Airport American Airlines Canopy Design - Structural Engineer

Designed the canopy framing and foundations for the American Airlines Canopy at Terminal 3 at JFK International Airport in Queens, NY, for the Port Authority of New York and New Jersey (PANYNJ). (1994)

PANYNJ JFK International Airport Redevelopment - Structural Engineer

Performed structural engineering services for various aspects of the $2 billion redevelopment of JFK International Airport in Queens, NY, as part of a 5-year Capital Improvement Program for the Port Authority of New York and New Jersey (PANYNJ). I provided the initial inspection and design of the foundation and superstructure for the East Parking Garage, including the steel beams and columns. I also checked the design of the space structure concept and the structural calculations from consultant for a new air traffic control tower. (1990)

TRANSPORTATION FACILITIES

NYCT Mother Clara Hale Bus Depot Design-Build – Lead Structural Engineer

Responsible for preliminary and final structural engineering design for the 390,000-sf replacement of the Mother Clara Hale Bus Depot in Manhattan's Harlem neighborhood. The functional layout of the new depot accommodates bus refueling, servicing, fare collection, washing, and maintenance on the first floor. The second and third floors are dedicated for indoor bus parking, and the roof level will accommodate mechanical equipment. We were using Building Information Modeling (BIM) software to facilitate an integrated design that will translate into superior contract documents, reducing conflicts that might otherwise delay construction and increase costs. I also providing engineering support during construction, including submittal review, of this $225 million New York City Transit (NYCT) project. (2011 - 2012)

ARC (Access to the Region's Core) – Station Structural Engineer

ARC tunnel project was a commuter-rail project to increase passenger service capacity on New Jersey Transit (NJT) between Secaucus Junction in New Jersey and Manhattan in New York City. The project have included two new rail tunnel under Hudson River as a supplement to the North River Tunnels. The ARC tunnel project proposed several new stations under 34th Street east of existing Pen Station with pedestrian connections to the existing stations of New York City Transit's Eighth, Seventh, Sixth Avenue, and Broadway subway lines and terminate at Macy's basement. Our structural team was responsible for the design of new underground stations and pedestrian connectors, the project was cancelled in October 2010 by the former New Jersey Governor Chris Christie. (Participated in 2009 -2010)

Confidential Government Agency Capital Security Program IDQ Contract - Supervising Engineer
Providing structural engineering services as part of an indefinite quantity (IDQ) security task-order contract with a confidential client at various locations. The work has been awarded to date includes security system design, risk and vulnerability assessments, development of a security program, engineering solutions for threat mitigation, cost benefit analysis of alternative mitigation, conceptual design, design development, final design, contract document preparation, and pre-construction and post-construction contract award services. (2006 - 2008)

NJ TRANSIT Meadows Maintenance Complex Facility Expansion - Project Structural Engineer
Prepared construction documents for the $76.3 million expansion of the Meadows Maintenance Complex in Kearny, NJ, which included 11 tasks. The objective of this project was to expand and update vehicle maintenance facilities, increase train storage capacity, provide trainwashing capability, and expand material storage capacity. The firm planned and designed these facilities to maximize operating flexibility and efficiency, reduce long-term maintenance costs, and improve fleet reliability. Although LEED® certification was not part of the project scope but still improved energy efficiency through the use of durable insulated precast concrete and metal wall panel systems, tempered air curtains at large doorways, a 90% wastewater reclamation system for the train washer, and high-efficiency lighting. (2007 - 2009)

NYCT Cortlandt Street Station Reconstruction - Project Structural Engineer
Responsible for the roof replacement (roof collapsed during 911 attacked) of the structural design for the reconstruction of the Cortlandt Street Station on the Broadway-7th Avenue line in Lower Manhattan. The New York City Transit (NYCT) facility Cortlandt Street Station is an important component of the new World Trade Center Transportation Hub. (7/07 - 4/09)

Metro-North Harmon Yard Shop Replacement Phase III Design-Build - Project Engineer
Reviewed designs for the $279 million design-build construction of a new coach shop and locomotive shop at the Metro-North Croton-Harmon Yard in Croton-on-Hudson, NY. I reviewed design drawings, specifications, and shop drawings prepared by the design-builder; prepared responses to requests for information; coordinating review comments from the design team; and attending design comment resolution meetings. (4/07 - 2/09)

APM Terminal North America Marine APM Container Terminal - Project Structural Engineer
Performed structural engineering design for a new maintenance building and fueling facilities as part of the proposed redevelopment of this marine container terminal in Elizabeth, NJ. The building was to house offices, materials storage, and vehicle maintenance operations. My responsibilities

included providing preliminary design and structural design criteria to the manufacturer for the fabrication of the pre-engineered superstructure. (10/05 - 5/07)

WMATA Ballston-MU Station Access Improvements Design-Build - Project Engineer
Performed structural engineering services from preliminary through final design to make access improvements for the east end of this underground metro station on the Washington Metropolitan Transit Authority (WMATA) Orange Line in Arlington, VA. We provided structural engineering for the feasibility study of the tunnel link to the subway station and for the construction of an additional level to the mezzanine in the interior of the station. (12/05 - 7/06)

PANYNJ AirTrain JFK DBOM – Lead Station Structural Engineer
Supervised the superstructure design of seven stations for the award-winning light rail system serving JFK International Airport in Queens, NY, for the Port Authority of New York and New Jersey (PANYNJ). Structural design for the $1.3 billion design-build-operate-maintain (DBOM) project was performed in accordance with New York City Seismic Code Local Law 17/95. We provided preliminary design for the Federal Circle and Howard Beach stations, as well as design for signage structures at the stations and new escalators for the American Airlines Terminal. The 8.4-mile system links airport terminals with car rental facilities, parking areas, and the New York City transportation network, including the Long Island Rail Road and the New York City Transit subway and bus system. (1998 - 2003)

NJ TRANSIT Hudson-Bergen Light Rail Transit System DBOM - Structural Engineer
Conducted a survey of Maritime Power Building, a manufacturing facility in Jersey City, NJ, to provide existing framing layout and to develop the framing concepts for lateral stability related to reconfiguring the steel and timber facility, half of which was blocking the proposed path for the train. I was responsible for determining how to tear down half of the structure while maintaining lateral stability for the remaining half without existing drawings, our team had to assess the structure's configuration in the field. The survey was part of the $1 billion Hudson-Bergen light rail system project, the transit industry's first major design-build-operate-maintain (DBOM) assignment in the country. (1997)

NYCT Franklin Avenue Shuttle Line Rehabilitation - Project Structural Engineer
Developed and implemented the structural design for the stations portion of the Franklin Avenue Shuttle Line in Brooklyn, NY, for New York City Transit (NYCT). The structural design prepared the contract drawings and specifications, I supervised whole structural design. The 1.4-mile shuttle runs from Franklin Avenue and Fulton Street to Prospect Park. The project included an in-depth appraisal of the shuttle line's physical infrastructure to determine its condition and what was required to return it to a state of good

repair. Based on the recommendations of the study, We developed preliminary through final design for the rehabilitation of the shuttle line, including the following key elements: demolition of the existing "El" structure at Fulton Street; rehabilitation/rebuild of the line's 11 bridge structures; provision of new terminal stations at Franklin Avenue and Park Place; rehabilitation of the Botanic Garden Station and provision for a new passageway to the Interborough Rapid Transit Franklin Avenue Subway Station; reinforcement of the existing retaining walls along the entire route; provision for a new drainage system for the cut section; and coordination of the track, signal power, and communication systems. (1997)

NYCT Rail Control Center - Structural Engineer
Provided the structural design of a new facility to control rapid transit operations of New York City Transit (NYCT). We provided structural designs incorporated seismic considerations performed in accordance with New York City Seismic Code Local Law 17/95, multi-floor and multilevel floor plates to facilitate raised floor configurations, and fast-track foundation design package for early bid procurement. (1994)

Metro-North Grand Central Terminal Rehabilitation - Structural Engineer/Field Inspector
Inspected the existing structural members at Grand Central Terminal as part of the rehabilitation of the historic station in Midtown Manhattan. We provided repair details based on the field inspections to the existing structures. (1990)

Metro-North Grand Central Terminal North End Access Feasibility Study - Structural Engineer
Performed a feasibility study and preliminary design for the new entrance to the historic Grand Central Terminal in Midtown Manhattan. Work entailed examining the existing structure for potential structural problems associated with building the new entrance and making recommendations based on the inspections. (1990)

COMMERCIAL

ACIA Atlantic City Convention Center - Structural Engineer
Provided structural engineering, analysis, and design of a 250-ton pile and two 30-ton pile caps, including steel beam, column, and truss design, for this $154 million, 2.2 million-sf convention center in Atlantic City, NJ, for the Atlantic County Improvement Authority (ACIA). I performed a wind load lateral analysis for the steel girders, beams, and columns using load and resistance factor design. I acted as a liaison between the client and contractor and was also a troubleshooter for issues concerning the design. Along with overseeing the pile foundation design, which included pile cap and grade beam design, I coordinated mechanical and electrical engineering and plumbing as they related to the structural engineering portion of the project. (1996 - 1997)

PANYNJ 7 World Trade Center - Structural Engineer
Provided high-rise structural steel design, foundation design, and curtain wall review for 47 stories of 7 World Trade Center in Lower Manhattan for the Port Authority of New York and New Jersey (PANYNJ). (1985) unfortunately, this build collapsed during 911 terrorist attacked.

FEDERAL

USPS JFK International Airport U.S. Postal Service Canopy - Project Engineer/Construction
Provided final design of the foundation and answered RFI during the construction stage for an infill exterior canopy to cover conveyor equipment at a U.S. Postal Service (USPS) facility at JFK International Airport in Queens, NY. (3/05 - 2007)

USPS Stony Brook Main Post Office Addition - Lead Structural Engineer
Performed structural engineering duties for an addition to the existing main post office in Stony Brook, NY, for the U.S. Postal Service (USPS) as part of a renovation aimed at creating a new post office for the town. The project provided a particular aesthetic challenge because the addition had to blend with the 1920s-era neo-colonial architectural style of the existing shopping center where the new post office is located. I also responsible for construction phase services, including resolution of field questions related to structural work. (2003)

GOVERNMENT

Town of Stratford New Fire Headquarters - Project Structural Engineer
Performed structural and foundation design for this new, modern complex housing the fire station operations for the Town of Stratford, CT. The 27,000-sf, $6 million facility includes a central fire station and an emergency management center, which is equipped with emergency communication systems and where the Chief of Police, Fire Marshal, and other town officials can congregate in case of a town-wide emergency. The building has two floors as well as a basement, and includes a kitchen and four large bays to store department trucks. I responsible for shop drawing review and for responding to all field questions during construction. (2003 - 2005)

NYCDDC 100th Precinct Façade Renovation - Lead Structural Engineer
Provided structural design, details, and service for the construction phase of this $2.7 million exterior rehabilitation of the New York Police Department's 100th Precinct building in Queens, NY, for the New York City Department of Design and Construction (NYCDDC). The entire 3-story, granite-based brick and limestone exterior with terra cotta parapets was replaced. (3/04 - 4/05)

HEALTH & SCIENCE

DASNY Manhattan Psychiatric Center Renovations - Structural Engineer
Performed framing analysis using GT STRUDL to analyze the stability of the 19-story stair tower at this Dormitory Authority of the State of New York (DASNY) facility on Wards Island, NY. The stair tower was on the outside of the building and was designed to resist the wind. I also responsible for job planning, preliminary schematic concept design and final design. (93 - 99)

VA Brooklyn Medical Center Ambulatory Care Addition - Project Engineer/Construction Phase
Conducted periodic on-site inspection services during construction of a 150,000-sf ambulatory care addition to a U.S. Department of Veterans Affairs (VA) hospital in Brooklyn, NY. (1996 - 1997)

NYSDOH New Scotland Avenue Laboratory - Structural Engineer
Provided superstructure design, including lateral load analysis and design of beam columns, for the New York State Department of Health (NYSDOH) for a new medical laboratory in Albany, NY. I also reviewed shop drawing during the construction phase. (1992)

INSTITUTIONAL

Korean Baptist Church of America Edison - Lead Structural Engineer
Overseeing preliminary through final structural steel and foundation design for this church in Edison, NJ. (6/05 - 2007)

JUSTICE

FBOP Metropolitan Detention Center - Structural Engineer
Provided structural and foundation design for a 509,000-sf, 1,000-bed detention center in Brooklyn, NY, for the Federal Bureau of Prisons (FBOP). The $150 million project also included structural design for the renovation of a warehouse into a 500-bed interim facility. (1995)

Westchester County DPW New Grasslands Jail - Structural Engineer
Provided design for a new jail, which entailed designing the composite beams and columns using allowable stress design, in Valhalla, NY, for the County of Westchester Department of Public Works (DPW). This structure was a steel building with a footing design. I reviewed shop drawings during the construction phase. (1993)

MILITARY

NAVFAC U.S. Navy Fort Wadsworth Headquarters and Community Services Facility - Structural Engineer
Performed structural engineering analysis, including wind analysis using GT STRUDL, of superstructure steel and foundation design in Staten Island, NY. Also, reviewed concrete and steel shop drawings during the construction stage of the Naval Facilities Engineering Command (NAVFAC) project. (1994 - 1995)

TUNNELS

PANYNJ New Jersey Emergency Garage Improvements Structural Engineering - Project Structural Engineer
Provided structural design and services at the construction phase of this emergency garage in Weehawken, NJ, for the Port Authority of New York and New Jersey (PANYNJ). The facility accommodates police and emergency personnel along with their equipment. We provided structural engineering design to support the replacement of HVAC system of the facility. (2/04 - 4/04)