LERA Consulting Structural Engineers



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LERA Consulting Structural Engineers

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Firm Profile

Leslie E. Robertson Associates (LERA) is a M/WBE structural engineering firm providing services to architects, owners, contractors, and developers. Since our founding in 1923, we have designed numerous landmark projects across the world, and established a strong reputation for design and technical excellence. Today, LERA's talented professionals continue the tradition of creating innovative, yet constructible and economical structural designs.

Our portfolio includes a wide variety of building types of every size and level of complexity. We have accomplished unique and award-winning designs for new buildings as well as renovations to existing and historic structures. Our services include complete structural designs, feasibility studies, peer reviews, value engineering, blast analysis and design, forensic consulting, and special inspections.

Headquartered in New York City, LERA also operates offices in Mumbai, India and Shanghai, China.

OFFICE & MIXED USE | REPRESENTATIVE PROJECTS

WORLD TRADE CENTER, TOWER 4

New York, NY



Facing onto the World Trade Center Memorial Park, Tower 4 stands alongside Tower 1 as an important part of the redevelopment of Downtown Manhattan.

In addition to Class A office space, retail amenity will be provided within a five story podium. Curtainwall at portions of the building is intended to provide transparency. The project consists of a 947-ft (290-m) office tower with a gross construction area of 2.3 million-sf (214,000-sm). This area includes the below grade construction within the street-level boundaries of the project site. Below-grade structure is designed for flood protection of critical systems. It has been designed to meet LEED-Gold criteria.

Construction Cost Completion Date Not Available 2013

Owner Silverstein Properties

Architect Maki & Associates - Design Architect Adamson Associates - Executive Architect



SHANGHAI WORLD FINANCIAL CENTER

Shanghai, China



The Shanghai World Financial Center is described as both a city within a city and a global magnet, symbolizing China's prominence in global trade. The tower's central location in the Pudong District is ideally sited for international client groups. Podium level uses, including retail, serve to enliven the streetscape and engage passersby. The tower includes office, trading, hotel, museum, and retail uses.

LERA first performed an alternative structural design for a contractor of this 1,509-ft (460m) tall building in 1997. When the developer, Mori Building Company, elected to construct on the existing foundations a taller building at 1,614-ft (492 meters) with 16% more floor area, others were unable to provide a design. We developed a new structural system that decreased the amount of steel and concrete, and provided enhanced reliability and robustness... all while speeding the construction, and reducing costs in both structural and non-structural systems.

The building, opened in 2008, won the Best *Tall Building in the World*, 2008 award from The Council on Tall Buildings and Urban Habitat (CTBUH). The jury stated "the structure is nothing short of genius."

Construction Cost\$1.3 billionCompletion Date2008

Owner Mori Building Company

Architect Kohn Pedersen Fox Associates

Awards Best Mixed-Use Project, MIPIM Asia Awards, 2009

Diamond Award for Engineering Excellence, ACEC New York, 2008

LOTTE JAMSIL TOWER

Seoul, Korea



Our team's concept for the Lotte Tower was selected as the winner of an international competition.

In addition to a mixed-use program, the design for the tower will accommodate significant public uses, including office, hotel, apartments, retail, atrium, observation, and the like. Sustainability is important to designers and Owner alike. LERA is working on the design of a 123-story, 555 meter tower containing 400,000-gsm, for the Lotte Group.

Construction Cost Completion Date \$2.5 billion Under Construction

Owner Lotte Group

Architect Kohn Pedersen Fox Associates



M3M GOLF VIEW ESTATE

Gurgaon, India



This project consists of 19 residential buildings ranging in height from six to 42 stories planned as part of a golf club community. The buildings are raised three stories above ground to allow the golf course landscaping and car driveways to flow under the buildings. The gross construction area is approximately 2 million-sf (185,800-sm). LERA is providing complete design services on a design-build basis working for Larson and Toubro.

Construction Cost Completion Date

Not Available Active

Owner M3M India Ltd

Architect Arcop Group





LODHA PROJECT ALPHA AND WORLD ONE TOWER

Mumbai, India





This project consists of a multi building, mixed use development. The first phase of work will contain 5,500,400-sf (515,000sm) of buildable area, including a 1,220,600sf (113,400sm) residential tower. The second phase will be comprised of residential, commercial, retail and parking uses totaling approximately 4,000,400sf (374,000sm) of space. LERA will be providing complete structural engineering services for the project from the design through construction phase.

Construction Cost Completion Date Not Available Under Construction

Owner Lodha Realty

Architect Pei Cobb Freed

BEN THANH TOWERS (THE ONE)

Ho Chi Minh City, Vietnam



The Ben Thanh Towers Project is a stateof-the-art mixed-use development of approximately 154,600sqm GFA. The Project will consist of two towers at approximately 235m and 225m in height, respectively, a connecting 9-story podium, and a 5-story basement structure.

The Mixed-Use Tower will comprise office and hotel components, while the Residential Tower will contain luxury residential apartments. The podium will contain retail space, hotel amenities, a ballroom, meeting rooms, lobbies, food and beverage space, and management space. The basement will include two retail levels, car parking, building services rooms, and management facilities. A future tunnel will connect the retail basement with the planned adjacent metro station.

One of the most striking architectural features of the two towers is the 10-m cantilevered overhang at the top of each building, signifying the head of a dragon; as well as the cantilevered glass cubes immediately below, signifying pearls in the mouth of the dragons. These cantilevers are supported by 1-story high steel trusses.

Construction Cost Completion Date

Not Available Active

Owner Bitexco Group

Architect Arquitectonica

BITEXCO FINANCIAL TOWER

Ho Chi Minh City, Vietnam



The shape of the tower is modeled after a lotus flower bud, the national flower and an emblem of the Vietnam's emergence into the global community of trade, business, and commerce. The project consists of a 68 story, 870-ft (265m) office tower and podium with a gross construction area of approximately 1,230,000 sf (114,000 sm). The tower contains four levels of parking below grade. Site constraints required the building be slender. A concrete structural system was devised in order to achieve an effective building solution. As the project is sited on the alluvial plain terminating the Mekong River delta, soil conditions presented an additional challenge to the design of this tall tower.

Construction Cost \$80 million **Completion Date** 2010

Owner **Bitexco Group of Companies**

Architect Carlos Zapata Studio



HERMITAGE PLAZA

Courbevoie, France



Located in Paris, France on the Seine river bank. A 3.4 million-sf (310,000 sm) mixed use development combining residential, hotel, office, retail and parking. The central feature of the project is a pair of high rise towers each reaching a height of 1060-ft (323 m). A third building rising 174-ft (53 m) above grade is a dedicated office building. The three buildings sit on a common retail and parking podium extending several levels below grade.

Construction Cost Completion Date

Not Available Concept Design

Owner Hermitage Immobilier

Architect Foster and Partners



CMG MANHATTAN OFFICE

New York, NY



Description

This project consists of a 220-000-sf high-end office fit-out of eight floors within 909 Third Avenue. LERA designed new multi-level stairs which were incorporated into the post-tension concrete building by creating cut outs into the floor levels.

Construction Cost Completion Date Not Available 2014

Owner CMG

Architect TPG Architecture



CULTURAL FACILITIES | REPRESENTATIVE PROJECTS

WILLIAM JEFFERSON CLINTON PRESIDENTIAL LIBRARY & MUSEUM

Little Rock, Arkansas



In response to Mr. Clinton's desire to "put things in the light," the William Jefferson Clinton Presidential Library & Museum was designed to be a vibrant place, accessible, highly visible and mutable. The main building takes the form of a glass bridge symbolizing President Clinton's theme of "Building a Bridge to the 21st Century."

The project is 165,000-sf (15,000-sm). It houses archive and exhibit spaces, and the Clinton Foundation Headquarters. The site includes the University of Arkansas Clinton School of Public Service and a 28-acre recreational park. At the center of the project is the Bridge (Museum) Building, which serves as a library that houses exhibits that are dedicated to Mr. Clinton's presidency, his life and times. The 420-ft (130-m) long glass-enclosed Museum Building hovers above the ground while cantilevering out 90-ft (27-m) at both ends. The building's transparency and daylighted spaces are designed to serve as very public invitations. This presidential center includes a new public park, as well. The building has received a LEED Silver rating.

Construction Cost\$90 millionCompletion Date2004

Owner Clinton Presidential Foundation

Architect Ennead Architects





NEWSEUM AND FREEDOM FORUM

Washington, District of Columbia



Dedicated to journalism and free speech, this museum features a two story media wall and a glass facade, reflecting openess and transparency. The 650,000 sf (60,000 sm) building contains galleries, a 500 seat auditorium, technologically advanced black box broadcasting facilities, office and retail space in a seven story building envelope. A unique truss system allows for the formation of a 4,500 sf (420 sm) window wall and monumental stair.

Design considerations included four below-grade levels which are built with reinforced concrete. A sixteen-inch thick foundation retains soil at the building's perimeter.

Construction Cost Completion Date \$230 million 2008

Owner Freedom Forum

Architect Ennead Architects



BROAD ART MUSEUM

Los Angeles, CA



This project consists of a 3-story art museum in downtown Los Angeles, with approximately 80,000-sf (7,400-sm) above a parking facility. In collaboration with Nabih Youssef and Associates, Los Angeles.

Construction Cost Completion Date

\$68 million Active

Owner The Broad Art Foundation

Architect Diller Scofidio & Renfro in Association with Gensler



NASCAR HALL OF FAME AND MUSEUM

Charlotte, NC



The design for the Hall of Fame and Museum evokes the sinuous shape of the racetrack, highlighting the excitement of the sport. A complex structural system featuring curved and sloped forms as motifs was devised to house the project's Great Hall and related exhibits.

A distinctive architectural feature of the museum is its stainless steel façade, which twists in the form of a Mobius strip to form a unique canopy, spanning 110-ft (33.5-m) over the main entrance.

The project consisted of a five-acre complex. The 175,000-sf (16,250-sm) Hall of Fame and Museum is the centerpiece of the complex. The site also houses a 19-story office tower, a 102,000-sf (9,500-sm) expansion to the Charlotte Convention Center, a bi-level footbridge connecting the Ballroom to the existing Convention Center, a 12,000-sf Studio, and a 1000-car post-tensioned concrete parking garage located below the Ballroom. Long-span roof trusses enable the extra-large Ballroom to be column-free.

Construction Cost\$200 millionCompletion Date2010

Owner City of Charlotte

Architect Pei Cobb Freed & Partners





MUSEUM OF ISLAMIC ART

Doha, Qatar



The museum, dramatically sited in Doha Bay, houses an important collection of Islamic Art. The building is an important cultural addition to the region. The museum is comprised of two distinct structures: a Ramp and Garage Building on dry land and the Museum Building offshore. The entire building is made of architectural concrete structure.

Construction Cost	\$150
Completion Date	2008

\$150 million 2008

Owner Qatar Museums Authority

Architect I.M. Pei in Association with Pei Partnership



MIHO MUSEUM AND BRIDGE

Kyoto, Japan



An inspired blending of modern geometric forms and traditional Japanese motifs, I.M. Pei's ingenious design is an architectural triumph. The building, 80 percent of which is underground, is nestled within a 247-acre mountainous nature preserve. Shinji Shumeikai, the spiritual organization that commissioned the building, and local governing authorities were deeply concerned about preserving the natural splendor of the site. In response to those concerns, I.M. Pei conceived of a tunnel through the mountain and a bridge across the valley to reach the museum. The Miho Museum Bridge was ecologically designed by LERA to span the deep valley without the intervention of piers rising up from the ground.

Construction Cost Completion Date \$185 Million 1997

Client/Architect I.M. Pei, Architect





NEW YORK HISTORICAL SOCIETY RENOVATION

New York, NY



This project consists of renovations and alterations to the New York Historical Society building located on Manhattan's historic Upper West Side. Upgrades include improvements to both the Central Park West and 77th Street entrances, as well as interior enhancements to render the principal gallery space a more inviting event space. A section of the first floor was converted into a restaurant.

Construction Cost\$7Completion Date20

\$70 million 2010

Owner New York Historical Society

Architect Platt Byard Dovell White





NEW YORK TOLERANCE CENTER

New York, NY



The first floor and basement of the Daily News Building were transformed into a new a museum and training center. The 20,000-sf (1,860-sm) training center includes spaces specially designed for interactive workshops and exhibits. Located in the heart of Manhattan, the center is described as a "social laboratory" for diversity training programs for front-line professionals such as teachers, police, and community leaders. The New York Tolerance Center is a professional multi-media training facility targeting educators, law enforcement officials, and state/local government practitioners. It provides participants with an intense educational and experiential daylong training program.

Construction Cost\$8 millionCompletion Date2003

Owner New York Tolerance Center

Architect NBBJ





HOSPITALITY & RETAIL | REPRESENTATIVE PROJECTS

MARRIOTT INTERNATIONAL HOTEL

Hanoi, Vietnam



This 600,000-sf (55,700-sm) waterfront project consists of a nine story, five-star, 500 room Marriott International Hotel and attached parking garage. The Marriott Hanoi also serves as the home of Vietnam's National Convention Center. These two facilities will act as an engine for the country's economic growth.

Construction CostNoCompletion Date201

Not Available 2013

Owner Bitexco Group of Companies

Architect Carlos Zapata Studio

Awards

Building Design + Construction 2014 Building Team Award 2014 NCSEA Excellence in Structural Engineering Awards





THE STANDARD HOTEL, EAST VILLAGE

New York, NY



The Standard Hotel, East Village is a 20-story hotel with a gross area of approximately 100,000 sf (9,300 sm) plus two full basements.

Construction Cost Completion Date \$45 million 2009

Owner Lounge Sleep

Architect Carlos Zapata Studio





SURREY HOTEL RENOVATION

New York, NY



This project consists of the renovation of an existing hotel located at 20 East 76th Street in New York City. Structural modifications were made for mechanical systems upgrades, reinforcing roof framing and designing dunnage to support new heavy equipment, reinforcing roof framing for new roof garden and reinforcing regular hotel floor framing to support a new gym.

Construction Cost\$34 millionCompletion Date2010

Owner Denihan Hospitality Group

Architect Stonehill & Taylor Architects and Planners





PRADA SOHO

New York, NY



This project consists of the renovation of two floors of the former Guggenheim - SoHo museum into an upscale retail establishment. A feature of this groundbreaking project includes flexible space for special programs and cultural events in the space. An innovative bracing system using composite cast-iron steel and concrete columns, cantilevering off of the existing 1890's brick foundation pier helped create an open space. Structural features include bracing systems to support floating display cases.

Construction Cost\$1Completion Date20

\$15 million 2002

Owner Prada USA Corp.

Architect

Office of Metropolitan Architecture in Association with Architecture Research Office



MORIMOTO RESTAURANT

New York, NY



Architecturally exposed concrete, a signature element of Tadao Ando's work, is dramatically visible in a series of concrete columns and floating stair. The space is further defined by a static "waterwall," a steel curtain holding nearly 20,000 illuminated bottles of water.

Developed by noted restaurateur Stephen Starr, this project consists of a highquality tenant renovation of a 13,000 sf (1,200-sm) restaurant on two levels in the Chelsea Market in New York City. The facility is punctuated by remnants of the High Line elevated railway, referencing the site's prior use as a food manufacturing center.

Construction Cost\$12 millionCompletion Date2006

Owner

Starr Restaurant Organization

Architect Tadao Ando - design architect, in collaboration with Goto Design Group





BUDDAKAN RESTAURANT

New York, NY



A high-quality, 19, 000 sf (1,800-sm) of renovation work for a two-story tenant space within the Chelsea Market complex in New York City was performed for this upscale restaurant.

Completion Date 2006

Owner Starr Restaurant Organization

Architect Christian Liaigre Design Architecture, in Association with Goto Design Group



ACADEMIC / HEALTHCARE FACILITIES | REPRESENTATIVE PROJECTS

MEDICAL EDUCATION BUILDING COLUMBIA UNIVERSITY MEDICAL CENTER

New York, NY



A new 15-story, 107,000-sf (9,945-sm) medical education building will create a community of students and facility from all four CUMC schools (P&S, Nursing, Dental Medicine and the Mailman School of Public Health) as well as the biomedical departments of the Graduate School of Arts and Sciences. The facility will aim to achieve LEED Gold certification and incorporate technologically advanced classrooms, collaboration spaces, and a modern simulation center.

Responding to the architectural design intent, the Cascade structure is a unique sequence of cantilevered concrete slabs, interconnected by walls and ramps, that are supported by a pair of architecturally exposed concrete columns with embedded steel shapes and grade 97 rebar. LERA also designed a fiber reinforced polymer (FRP) system to reinforce the existing concrete garage structure to support the new loading from the green roof.

Construction Cost\$77 millionCompletion DateActive

Owner Columbia University

Architect

Lead Designer - Diller Scofidio + Renfro Executive Architect - Gensler

Awards

Concrete Industry Board, Grand Award 2014







Leslie E. Robertson Associates LERA Consulting Structural Engineers

NOVARTIS RADIATION ONCOLOGY RESEARCH OFFICE BUILDING

East Hanover, NJ



This project consists of a new 5-story office building that will be approximately 185,000-sf (17,187-sm). Several two-story, vertical penetrations called "community parks" provide flexibility to connect research teams working on different floors of the building. The absence of perimeter columns yield to remarkable exterior views. The building will house 440 associates in a collaborative workplace, including rooftop gardens which will serve as extensions for meetings, collaboration and individual thought.

Construction Cost Completion Date \$81 million 2014

Owner Novartis

Architect Maki & Associates Gensler, NY





KIMMEL PAVILION NYU LANGONE MEDICAL CENTER

New York, NY



The new Kimmel Pavilion creates an 830,000-sf (77,110-sm) state-of-the-art, integrated environment for inpatient and procedure-based care for the NYU Langone Medical Center. The new building will connect at various floors with the existing Tisch University Hospital building, and will function as an extension and expansion of many of the existing programs within Tisch and on the NYULMC campus.

Construction Cost	Not Available
Completion Date	Under Construction

Owner

NYU Langone Medical Center

Vicki Match-Suna | Phone: 212-263-2384

Architect

Ennead Architects in Association with NBBJ



TISCH HOSPITAL EMERGENCY DEPARTMENT NYU LANGONE MEDICAL CENTER

New York, NY



A new entrance arrival center along with the complete renovation of the existing Tisch Hospital Emergency Department expanded the capacity for incoming patients and modernizing its treatment facilities. The expansion structure also houses mechanical and electrical equipment for use by the Hospital. The ED project is part of the NYU Langone Medical Center campus capital improvement program.

LERA designed fiber reinforced polymer (FRP) repairs for the existing concrete walls of the Tisch Hospital Emergency Department at NYU Langone Medical Center, to increase their resistance to flood loading.

Construction CostNot AvailableCompletion Date2014

Owner NYU Langone Medical Center

Architect NBBJ



BELLEVUE HOSPITAL CENTER

New York, NY



Bellevue Hospital Center, constructed in 1736, is the oldest hospital in the United States. Innovative structural design solutions helped to create a new grand gateway to the Bellevue Campus and a new ambulatory care facility to accommodate the hospital's 489,000 yearly patient and surgery visits, transforming this venerable institution into an advanced medical campus while preserving the facility's historical significance.

This project consists of a new 207,000-sf (19,200-sm) ambulatory care building, consolidation of the critical care units in 48,000-sf (4,500-sm) of renovated space, and remodeling of 90,000-sf (8,400-sm) of general care inpatient units in the existing hospital. A soaring 7-story high atrium with 67-foot by 175 foot skylight connects the new building to the existing historic Administration building. Supporting the skylight is a series of sloped bowstring truss pairs. The trusses span 67 feet from the new structure to a point that is 26 feet higher on the existing building.

Construction Cost \$115 million **Completion Date** 2005

Owner Dormitory Authority of the State of New York/ NYC Health and Hospitals Corporation

Architect Pei Cobb Freed & Partners





JOHN JAY COLLEGE, ACADEMIC BUILDING I CITY UNIVERSITY OF NEW YORK

New York, NY



Designed to meet LEED-Silver criteria, the new Academic Building occupies the entire block bounded by Tenth and Eleventh Avenues, between 58th and 59th Streets. Replacing an existing campus building, the facility connects to Haaren Hall by an overhead walkway spanning Amtrak rail lines at Eleventh Avenue. Envisioned as an "academic city within a city," it houses 80% of the College's classrooms and increase campus space by 36%.

This 620,000-sf (57,600-sm) multi-use project houses classrooms, research laboratories, faculty offices, auditoriums, cafeterias and social spaces including a centrally-located Commons roof area.

A complex foundation system, comprised of drilled-in caissons and cast-in-place concrete piers, was devised in order to accommodate existing Amtrak rail lines. The building structure is isolated from airborne vibrations caused by train traffic. Site gradation allows the formation of a basement level housing mechanical and storage spaces and back-of-house functions. Perimeter hangers, supported by a grid of trusses at the roof level, are integral to the design of long span framing and cascade stairs. Additional vibration analysis was performed for laboratory areas.

Construction Cost\$352 millionCompletion Date2011

Owner Dormitory Authority of the State of New York

Architect Skidmore, Owings & Merrill





LEHMAN COLLEGE SCIENCE FACILITY CITY UNIVERSITY OF NEW YORK

Bronx, NY



The new Science Building for Lehman College creates an important presence on campus and a gateway to the sciences. The entry is defined by a multi story glass atrium linking graduate and undergraduate wings. A central courtyard features a constructed wetland that serves as a model of urban biotecture. The facility has been certified LEED Platinum and was the first LEED certified building in the City University of New York.

This project consists of a 69,000-sf (6,400-sm) learning facility. The building is intended to serve as a "campus within a campus" containing laboratory, teaching, and administrative functions, and render the sciences more accessible to a broader community.

Construction Cost	\$60 million
Completion Date	2012

Owner

Dormitory Authority - State of New York; The City University of New York

Architect Perkins & Will





WESTCHESTER COMMUNITY COLLEGE STATE UNIVERSITY OF NEW YORK

Valhalla, NY



The Gateway Center functions as a unique resource on the campus, housing the college's Business Programs, Professional Development Center, and multi lingual programs. The facility creates new, dynamic opportunities for student growth and collaboration. This 70,000-sf (6,500-sm) project consists of three new buildings. The Gateway, a large and open volume serving as a lobby, is flanked by two buildings which house classrooms, offices, an auditorium, student lounge and a cafeteria. The Gateway's unique structural design consists of architecturally exposed, stackable steel "boxes," which were prefabricated and bolted together on site. A steel bridge crosses the Gateway and links the three campus buildings. The site is further distinguished by a 65-foot (20-m) tall steel tower, which is lit at night to serve as a beacon for the campus. This facility received a LEED Gold rating.

Construction Cost \$2 Completion Date 20

\$33 million 2010

Owner State University of New York; Westchester Community College

Architect Ennead Architects

Awards National Winner, AISC Ideas2 Award (2011) Excellence in Structural Engineering, SEAoNY (2011)





CENTER FOR DESIGN INNOVATION MASSACHUSETTS COLLEGE OF ART & DESIGN

Boston, MA



This project consists of a new building entry and adaptive resue of exisitng spaces for the Massachusetts College of Art.The project marks a milestone in MassArt's long term plan to revitalize its urban campus. Located in the Fenway Cultural District in Boston, one of the nation's top centers for design, the facility creates a central iconic lobby and entry point and transforms previous gym space into studio, exhibition, and teaching spaces.

Construction Cost	\$
Completion Date	Α

\$25 million Active

Owner Massachusetts College of Art, Division of Capital Asset Management

Architect Ennead Architects





INSTITUTIONAL & PUBLIC FACILITIES | REPRESENTATIVE PROJECTS

JACOB K. JAVITS CONVENTION CENTER EXPANSION

New York, NY



LERA was involved in the design of a proposed expansion of the existing convention center. The facility would be doubled in size to 1.5 million-sf (140,000-sm). Designs for upgrades, and potential expansion, would need to accommodate active railway and transit lines running beneath the site. As part of the scope of work, several feasibility studies were conducted. Development potential was analyzed for the convention center site, as well as adjacent sites owned by the client and other municipal stakeholders. Mixed use, retail, and waterfront uses were considered among the development schemes.

Construction Cost	Not Available
Completion Date	2013

Owner

NY Convention Center Operating Corporation (CCOC)

Architect





BALTIMORE CONVENTION CENTER EXPANSION Baltimore, MD



Completed on a fast-track schedule, the existing Baltimore Convention Center was kept fully operational during construction of the new expansion. The \$160-million expansion consists of a 750,000-sf (70,000-sm) addition that tripled the size of the original building. The new facility includes a below grade, 300,000-sf (28,000-sm) exhibit hall, the addition of 45,000-sf (4,200-sm) of meeting rooms, and a new 36,000-sf (3,300-sm) ballroom, plus accompanying mechanical public spaces. An innovative three-chord truss system created a 180-ft x 600-ft (55-m x 180-m) column free exhibit space in the exhibition hall.

The project was awarded the 1998 Grand Award for Engineering Excellence by the American Consulting Engineers Council and the 1998 Diamond Award for Engineering Excellence by the New York Association of Consulting Engineers.

Construction Cost	\$160 millior
Completion Date	1996

Owner

City of Baltimore, Maryland Stadium Authority

Architect

Cochran Stephenson & Donkervoet LMN Architects





HUDSON PARK AND BOULEVARD

New York, NY



This project consists of the design a new public park and boulevard, spanning three city blocks. The project includes the design of park structures, such as a Cafe, playgrounds, fountains, seating areas, underground mechanical vaults and artwork installations. A portion of this project spans over Amtrak train tracks.

Construction CostNot AvailableCompletion DateActive

Owner

Hudson Yards Development Corporation; NYC Department of Parks & Recreation

Architect

Toshiko Mori Architect and Michael Van Valkenburgh Associates



UNION SQUARE NORTH PAVILION RENOVATION AND PLAYGROUND

New York, NY



The Union Square North Plaza, a locus for commercial, recreational, and business activity, is centrally sited in one of Manhattan's most active neighborhoods. The Plaza restoration has significantly enhanced pedestrian uses in the vicinity.

The project consists of the renovation of the existing Union Square Pavilion and the addition of one wing structure with an area of approximately 1000-sf (90-sm) at the basement level and 475-sf (44-sm) at the ground floor level. The landscaped area to the south of the pavilion was redesigned for recreational use, while the plaza north of the pavilion, including the Greenmarket farmer's space, was resurfaced.

Construction Cost	\$6 million
Completion Date	2011

Owner NYC Department of Parks and Recreation

Architect Architecture Research Office

Landscape Architect Michael Van Valkenburgh Associates





SAN JOSE CONVENTION CENTER

San Jose, California



The Concrete Reinforcing Steel Institute recognized this project with an Award for Creative Design Achievement in Reinforced Concrete. The project also received an Award of Engineering Excellence from the New York Association of Consulting Engineers.

This \$130-million, 1.1-million-sf (100,000-sm) project consists of 165,000-sf (15,300-sm) of exhibit space and two levels of parking (1,300 spaces). Designed for Seismic Zone 4, this project also included multiple bid packages and was completed on a fast-track schedule.

This 102,200-sm project includes 15,330-sm of clear span exhibition space, plus meeting rooms, lobby and public circulation spaces, food preparation and service, storage, and two levels of parking for 1,300 cars The project was designed for Seismic Zone 4.

Construction Cost	\$143 million
Completion Date	1989

Owner

Redevelopment Agency of the City of San Jose

Architect

Mitchell/Giurgola Architects





MEYERSON SYMPHONY CENTER

Dallas, TX



The building is the new home for the Dallas Symphony Orchestra. It contains a 2200 seat performance hall, an administration wing, entertainment rooms, ticket booths, restaurant and 100 car parking level.

\$85 million

1989

Construction Cost Completion Date

Owner

The City of Dallas

Architect Pei Cobb Freed and Partners





TRANSPORTATION | REPRESENTATIVE PROJECTS

MCCARRAN INTERNATIONAL AIRPORT SATELLITE D EXPANSION NORTHEAST WING

Las Vegas, NV



This project consists of the addition of a new 144,000-sf (13,400-sm), 2-story wing to McCarran Airport's existing Satellite D Terminal. The project includes a Passenger Terminal Wing, an underground Automated Transit System (ATS) Station, and a 157ft (48m) Ramp Control Tower. The underground ATS station supports aircraft loads while employing a shallow structural envelope.

Construction Cost\$49.5 millionCompletion Date2005

Owner Clark County Department of Aviation

Architect

Tate Snyder Kimsey Architects





INCHEON INTERNATIONAL AIRPORT PASSENGER TERMINAL 2

Incheon, South Korea



The Incheon International Airport Passenger Terminal 2(IIAT2) is an addition to the existing airport in Incheon, Korea.

The main facilities include International Passenger Terminal 2, railroad station, short-term parking lot, Airport ramp control tower 2, Curbside, and frontal supporting facilities such as business, commercial, and lodging facilities.

LERA was on the team of architectural firm DMP in the design competition for the IIAT2 and was involved in the structural design of the passenger terminal and concourse areas including roof and roof supporting structures.

Completion Date Under Construction

Incheon International Airport Corporation

Architect DMP

Owner





SIDEWALK CANOPY RENO | TAHOE INTERNATIONAL AIRPORT

Reno, NV



The structural system for this 500 ft x 32 ft (150 m x 10 m) canopy consists of a lightweight exposed structural steel frame that visually slices into precast concrete column pairs that cantilever from foundation footings.

Construction Cost Completion Date \$1.3 million 2003

Owner Reno International Airport

Architect Tate Snyder Kimsey Architects



PORT AUTHORITY BUS TERMINAL STRUCTURAL MODIFICATIONS

New York, NY



LERA worked with PANYNJ to provide a seismic upgrade of this 2-million-sf (186,000-sm) terminal. The project involved strengthening of the existing structure to enhance its seismic stability.

Construction Cost\$52.4 millionCompletion Date2013

Owner Port Authority of New York & New Jersey

Architect Beyer Blinder Belle



BATTERY PARK CITY PARKS CONSERVANCY MAINTENANCE FACILITY

New York, NY



This project consists of the design of 40,000sf (3,700-sm) of administrative space for the Battery Park City Parks Conservancy. Program elements include the design for a long-span, high garage bay with overhead hoist system and a double glazed wall at the entry. This facility received a LEED Platinum rating.

Completion Date 2010

Owner Battery Park City Authority

Architect Dattner Architects



YAWKEY STATION

Boston, MA



The station comprises approximately 12,000 sf of (1,100sm) area and includes new platforms and track relocations. Additionally, there is a new metal and glass enclosure above the street level and new escalators, elevator and stairs from street level to platform level. LERA is providing structural engineering Services for the construction above platform level, including the foundations for this \$12 million project.

Construction Cost\$12 millionCompletion DateUnder Construction

Owner Massachusetts Bay Transportation Authority

Architect Carlos Zapata Studio

STEWART INTERNATIONAL AIRPORT AIR TRAFFIC CONTROL TOWER AND BASE BUILDING

Newburgh, NY



Stewart International Airport, located midway between New York City and Poughkeepsie, NY, serves as a major passenger airport for the Mid Hudson region. LERA was involved in the design of a new air traffic control tower, base building, and generator enclosure of approximately 6,000gsf (550gsm) at the airport. The control tower is constructed of concrete slab on composite metal deck, with a lateral load resisting system of braced steel framework.

Construction Cost Completion Date

\$7 million 2006

Owner Federal Aviation Administration

Architect Burns & McDonnell





CHEK LAP KOK INTERNATIONAL AIRPORT TERMINAL ROOF STRUCTURE EVALUATION

Hong Kong, China



This project consisted of the evaluation, on behalf of the contractor, of constructibility issues relating to the structural steel of the new terminal's 14 Million-sf (1.3 Million-sm) roof structure. The terminal roof consists of 400-sf (36-sm). prefabricated structural steel panels fabricated at a remote location to the terminal and erected in place.

Completion Date 2001

Owner Hong Kong Airport Authority

Architect Foster and Partners



