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MARKET SECTORS



Academic, Healthcare & Life Science Facilities

Renovations & Interior Spaces

Historic Preservation

Museums & Cultural Facilities

Mixed-Use Towers & Office Buildings

Residential & Hotel Developments

Convention Centers & Public Facilities

Transportation & Sports Facilities

Bridges & Special Structures

FIRM OVERVIEW

Firm Profile

LERA Consulting Structural Engineers is a W/MBE 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 have 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, computational design, blast analysis and design, forensic consulting, façade inspections and special inspections.

Headquartered in New York City, LERA also operates offices in Mumbai, Shanghai, Hong Kong and Seoul.

Academic Experience

LERA has extensive experience in the design of the entire spectrum of facilities for both private and public academic institutions, including Johns Hopkins University, Columbia University, New York University, Cornell University, CUNY, SUNY, Princeton University, Brown University, Temple University, University of Chicago, Massachusetts College of Art & Design and more.

We have led the structural design of numerous new academic facilities, such as academic buildings; healthcare, research, biotechnology and laboratory facilities; libraries; athletic facilities; dormitories; auditoriums; and fine arts/performing arts facilities. In addition, we have provided master planning services, feasibility studies and historic preservation services, and have designed renovations, additions, adaptive reuse projects and infrastructure upgrades to existing buildings.



Johns Hopkins University, Hopkins D.C., Washington, D.C.



Design Excellence

Throughout our century-long history, LERA has cultivated a peerless reputation for both conceiving and achieving innovative structural solutions for complex projects featuring unconventional, gravity-defying forms, daring architectural visions with ambitious structural elements and demanding project goals and constraints. Pioneers in the structural design of high-rise buildings, LERA was one of the first engineering firms to popularize the diagrid structural system, showcased in some of the most high-profile buildings in the world, such as the Bank of China Tower in Hong Kong, the United Steelworkers Building in Pittsburgh, PA and the supertall PNB 118 tower in Kuala Lumpur, Malaysia.

A shining example of LERA's innovative approach to structural design is the Roy and Diana Vagelos Education Center on Columbia University Medical Center's Washington Heights campus, a 15-story, 107,000-sf stateof-the-art medical education facility that features a transparent "Study Cascade" of vertically interconnected study and social spaces. Originally, the project was considered in steel and conventional concrete, but both systems were deemed either too expensive or too inefficient. In response, LERA devised a structural system that not only efficiently directed vertical load paths through an incredibly varied array of spatial planning—all while achieving cantilevers of up to 25 ft in concrete slabs that taper to a depth as thin as 8" through the use of bonded post-tensioning and Cobiax® void formers—but also enabled the entire façade of the building to be skinned in glass, an essential component of Columbia University Medical Center's vision. Completed in 2016, the Vagelos Center has won the industry's highest accolades, such as the 2018 ACEC NY Diamond Award for Structural Systems, the 2017 AIA NY Best in Competition Award, the 2017 SARA NY Visionary Architecture Award and the 2017 MASterworks Award for Best New Building.



From rendering to reality: The Roy and Diana Vagelos Education Center at Columbia University Medical Center in New York City.

U.S.A. Experience | Projects in 34 States

Alaska Arkansas California Colorado Connecticut Delaware District of Columbia Florida Hawaii Illinois Indiana Iowa Louisiana Maine Maryland Massachusetts Michigan Minnesota Nevada New Jersey New York North Carolina Ohio

Oklahoma Oregon Pennsylvania Rhode Island Tennessee Texas Utah Vermont Virginia Washington Wisconsin



• LERA Headquarters

FIRM OVERVIEW

Worldwide Experience | Projects in 6 Continents, 58 Countries

Angola Argentina Australia Azerbaijan Bahamas **Bosnia** Brazil Canada **Cape Verde** Chile China **Dominican Republic Ecuador Equatorial Guinea** France Germany Greece Haiti Honduras **Hong Kong**

India Indonesia Israel Italy Jamaica Japan Kazakhstan Kenya Kuwait Latvia Lesotho Macau Malaysia **Mauritius** Mexico The Netherlands Nigeria Pakistan Peru

The Philippines Portugal Qatar Russia Rwanda Saudi Arabia Singapore South Korea Spain Sri Lanka Taiwan Thailand Turkey **United Arab Emirates United Kingdom United States** Uzbekistan Venezuela Vietnam

LERA Locations

ERA

Enabling Greatness through Diversity

As a Minority- and Woman-Owned and Small Business Enterprise (M/WBE/ SBE) certified with New York City, New York State and multiple other city, state and federal agencies, LERA prioritizes diversity in our staffing and organization. Currently, our New York City office staff is composed of **28% female** and **42% minority** professionals. Our M/WBE certifications in New York include: **NYC SBS**, **NYS ESD**, **NYC SCA**, **PANYNJ**, **DASNY** and more.

Our women and minority staff have been awarded numerous personal and professional honors, including the Women's Builder Council Outstanding Women in Construction and Next Generation of Women Builders Awards, BWAF Emerging Leader, NYREJ Women in Building Services Spotlight, Pioneering Women in Real Estate and ENR-NY Top Young Professional. Furthermore, LERA is a member and/or sponsor of several industry organizations that support diversity in the industry, including Commercial Real Estate for Women New York, Professional Women in Construction, Those Amazing Professions and the NYBC Council of Industry Women.

In 2022, LERA received an Honorable Mention Award at the inaugural ACEC NY Diversity, Equity, Inclusion & Belonging (DEI&B) Awards.









FIRM OVERVIEW

Minority- & Woman-Owned Business Enterprise (M/WBE) Certifications

United States	National Minority Supplier Development Council (NMSDC)
City of New York	Department of Small Business Services (SBS) School Construction Authority (SCA)
	Port Authority of New York & New Jersey (PANYNJ)
State of New York	Empire State Development (ESD)
	Dormitory Authority of the State of New York (DASNY)
	NY & NJ Minority Supplier Development Council (NY & NJ MSDC)
State of New Jersey	Dept. of the Treasury Div. of Revenue & Enterprise Services (DORES)
	Dept. of the Treasury Div. of Property Management & Construction (DPMC)
	NY & NJ Minority Supplier Development Council (NY & NJ MSDC)
City of Philadelphia	Office of Economic Opportunity (OEO)
State of Illinois	State of Illinois Commission on Equity and Inclusion (CEI)
State of Massachusetts	Operational Services Div. (OSD) Supplier Diversity Office (SDO)
State of Virginia	Small, Women-Owned, and Minority-Owned Business (SWaM)
State of Tennessee	Dept. of General Services Gov. Office of Diversity Business Enterprise (Go-DBE)
State of Wisconsin	Dept. of Administration Div. of Enterprise Operations (DEO)

Small Business Enterprise (SBE) Certifications

State of Pennsylvania	Dept. of General Services (DGS) Bureau of Diversity, Inclusion & Small Business Opportunities
United States	Small Business Enterprise (SBE)

Federally Qualified

United States	Woman-Owned Small Business (WOSB)
United States	Small Business Enterprise (SBE)

SUSTAINABLE DESIGN

LERA is currently the lead structural engineer for more than \$12 billion and 50 million sf of construction worldwide. We provide design services for every building type, including office, mixed-use, institutional, historic, retail, healthcare, educational, residential, hotel, museum, cultural, industrial, aviation, sports, recreation and entertainment facilities, as well as sculptures and other specialty structures. LERA is committed to promoting the practice of sustainability in our structures. We have the capability to enable structural designs for all building types according to applicable sustainability standards and requirements in order to achieve LEED, Indian GRIHA and/or IWBI WELL Building Standard certification, as well as Net Zero Design goals. LERA has led the structural design of 30+ LEED certified projects worldwide, including five LEED Platinum projects across the United States.

Our staff includes LEED-accredited professionals who have led the structural design of numerous LEED-certified projects. Fundamental to our sustainable design practice, LERA is dedicated to designing efficient structural systems and using the minimum materials required both to serve the best interest of our clients and to meet the highest sustainability benchmarks possible on all projects.

SELECT PRACTICES & EXPERTISE

- Timber
- Recycled Pozzolan
- CarbonCure
- Embodied Carbon Tracking



LERA supports the vision that our structural engineers shall understand, reduce and, ultimately, eliminate embodied carbon in their projects. When requested by our clients, we work closely with the architect to assist in lifecycle analysis and embodied carbon assessments, vigilantly seeking solutions which mitigate the adverse environmental impacts of our buildings.



SE2050 Commitment

LERA is a signatory member of the Structural Engineers 2050 Commitment Program (SE2050). SE2050 was developed and launched by the Structural Engineering Institute (SEI) and issued by the Carbon Leadership Forum (CLF). This comprehensive program has been created to ensure substantive embodied carbon reductions in the design and construction of structural systems by the collective structural engineering profession. Our sharing of research and data on embodied carbon metrics will open up valuable resources and dynamic collaboration for the entire industry to learn from. Acquired knowledge will be used to teach our staff and clients about the impacts of embodied carbon, providing a valuable dialogue and plan to move forward. By dedicating to SE2050, and committing our resources, we hope to create a process for the elimination of embodied carbon that will be an industry standard.

As part of our sustainability design process, LERA supports the investigation of alternative materials that contribute positively to the built environment. It is the intent of our design process and construction document specification to utilize low-carbon technologies and recycled/post-industrial products in order to minimize cement usage for concrete production. As evidenced by our volunteer work with a working group from Building Product Ecosystems focused on the use of glass pozzolans, we are excited about the prospect of redirecting recycled glass from landfills to help in offsetting cement content in structural concrete. We have also developed specifications for the inclusion of other embodied carbon-reducing elements, such in-situ carbon dioxide mineralization, limestone blended cement and other supplementary pozzolanic materials, to meet sustainable design carbon and cement reduction goals. We understand that we, as structural engineers, must be team builders on each project, and work alongside our clients and their construction managers to navigate best practices, taking into consideration local materials and local contracting resources.



SUSTAINABLE DESIGN

Some of our LEED-certified projects include:

LEED Platinum

Helen L. and Martin S. Kimmel Pavilion | New York, NY NYU Langone Health

Battery Park City Maintenance Facility | New York, NY Battery Park City Authority

CUNY Lehman College, Science Facility | Bronx, NY The City University of New York

Las Vegas Springs Preserve Visitor Center | Las Vegas, NV Las Vegas Springs Preserve

USBR Lower Colorado Regional Office | Boulder City, NV United States Bureau of Reclamation

Unioil Tower | Manila, Philippines Exquadra Inc.; Unioil Petroleum Philippines, Inc

LEED Gold

David Rubenstein Forum | Chicago, IL University of Chicago

Charles Library | Philadelphia, PA Temple University

Roy and Diana Vagelos Education Center | New York, NY Columbia University Medical Center

The Broad | Los Angeles, CA The Broad Art Foundation

Natural History Museum of Utah | Salt Lake City, UT University of Utah

4 World Trade Center | *New York, NY* Silverstein Properties

H&M, Westfield World Trade Center | New York, NY Westfield



NYU Langone Health Kimmel Pavilion, New York, NY



Eataly, Westfield World Trade Center | New York, NY Westfield

Metro Green Apartments | *Stamford*, *CT* Jonathan Rose Companies

CUNY Advanced Science Research Center | New York, NY The City University of New York

CUNY Hunter College, Cooperman Library Renovation New York, NY The City University of New York

SUNY New Paltz Engineering Innovation Hub | New Paltz, NY The Dormitory Authority of the State of New York

SUNY Westchester Community College, Gateway Center Valhalla, NY

The State University of New York

Hyderabad Office Tower | Hyderabad, India Tishman Speyer Properties

Lodha World Towers | Mumbai, India Lodha Group

LEED Silver

Clinton Presidential Library & Museum | Little Rock, AR Clinton Presidential Foundation

Staten Island Courthouse | *Staten Island, NY* The Dormitory Authority of the State of New York

SUNY Buffalo, Life Sciences Complex | Buffalo, NY The State University of New York

SUNY Downstate Medical Center, New Academic Building, School of Public Health | Brooklyn, NY The State University of New York





PRINCETON UNIVERSITY ENVIRONMENTAL STUDIES + SCHOOL OF ENGINEERING AND APPLIED SCIENCE (ES+SEAS) Princeton, NJ



LERA is the structural engineer for Princeton's new home for Environmental Studies and the School of Engineering and Applied Science. The 666,000sf (61,873-sm) academic complex includes five buildings (ES, Commons, BioE, CBE and Theorist Pavilion), all connected underground in one continuous sequence, creating a new "ES+SEAS" neighborhood that is carefully integrated into the surrounding context, providing strong connections to nature and outdoor spaces. The project will advance the sustainability ethos of the University, and reflect the importance of environmental studies and engineering in a 21st-century liberal arts university. LERA is also providing engineering services for a utility tunnel under the BioE building as part of the site enabling work, and all of the site's landscaping elements.

The structural design maximizes the use of mass-timber construction, including DLT panels and glulam beams, and aims to minimize the embodied carbon in the project's concrete structure by specifying carbon sequestration/ CO_2 injection and recycled Glass Ground Pozzolans as cement substitutions, using modest (rather than high-strength) concrete strengths, and by leaving large amounts of the concrete exposed to absorb CO_2 during its life. Additional sustainable design features include green roofs, rooftop solar arrays, efficient MEP systems, stormwater collection and management, high performance curtain wall and optimized daylight.

Construction Cost Completion Date Not Available Active

Owner Princeton University Architect Ennead Architects





TEMPLE UNIVERSITY CHARLES LIBRARY

Philadelphia, PA



LERA was the structural engineer for this new 225,000-sf (20,900-sm), visually and spatially diverse library, revitalizing Temple University's North Philadelphia campus. The block-long building features a 3-story domed-atrium with clear spans of up to 100 ft, a large front arch that cantilevers off of the building, green roofs and an outdoor balcony offering cross-campus views.

The entire structure of the building is designed to support the weight of the building-wide green roof. The structural system includes long-span structural steel trusses and steel framing.

The library offers quiet study and reading spaces, large meeting rooms, areas for special events and technology-related activities (such as data visualization and 3D printing) and a state-of-the-art automated book storage and retrieval system that stores nearly 2 million volumes in bins stacked three stories high, opening up program space for other functions in the core of the library.

Construction Cost\$170 millionCompletion Date2019

Owner Temple University **Architect** Snøhetta / Stantec JV

Awards AIA New York Architecture Honors Award, 2020





COLUMBIA UNIVERSITY MEDICAL CENTER ROY AND DIANA VAGELOS EDUCATION CENTER New York, NY



LERA led the structural design and performed special inspections for this new 15-story, 107,000-sf (9,945-sm) medical education building that features a "Study Cascade," a vertical campus of stacked neighborhoods composed of post-tensioned, cantilevered concrete slabs. The structural system leverages natural interconnections that come from the unique arrangement of the program spaces: single-story walls and ramps connect and stiffen the cantilevered slabs, reducing post-tensioning, rebar and concrete quantities. The building stands as a nearly identical realization of the architects' vision—rarely does a completed building so accurately reflect its original renderings.

Construction Cost\$77 millionCompletion Date2016

Architect Diller Scofidio + Renfro – Lead Designer

Gensler – Executive Architect

Awards

Best in Competition & Architecture Honor Award, 2017 American Institute of Architecture NY Design Awards

Award of Merit, 2017 Post-Tensioning Institute Awards

Best of Design Award – Facade, 2016 Architect's Newspaper Best of Design Awards

Excellence in Structural Engineering Award, 2015 National Council of Structural Engineers Associations & Structural Engineers Association of New York



HOPKINS D.C. JOHNS HOPKINS UNIVERSITY

Washington, D.C.



LERA is the structural engineer for this new center for learning, research and public engagement in the heart of the nation's capital. The comprehensive renovation will transform the existing facility, the former home of the Newseum and Freedom Forum, into a collaborative learning environment for Johns Hopkins University that supports interactions between various academic disciplines and the wider D.C. community.

Significant reconfiguration of the floor slabs, internal circulation and façade will introduce more natural daylight into the building, helping to create a world-class education facility. A new multi-level structure, constructed within the existing atrium, will add usable floor space for classrooms.

LERA was also the structural engineer for the original Newseum building, as well as the attached Newseum Residences.

Construction Cost	Not Available
Completion Date	Under Construction

Owner Johns Hopkins University

Architects Ennead Architects; Rockwell Group; SmithGroup









COLUMBIA UNIVERSITY 600 WEST 125th STREET RESIDENTIAL BUILDING New York, NY



LERA is the structural engineer for a new 34-story building offering housing for graduate students and faculty members on the southwest corner of 125th Street and Broadway. The 177,000-sf (16,440-sm) building will include 142 apartments and 5,000 sf (465 sm) of retail space on the ground level. Seeking LEED Gold certification, the building will also contain a library, a lounge, a kids' play room, a gym, a green garden and open terrace spaces. In addition, the project is Fitwel Design Certified, 3 Stars.

Construction Cost Completion Date Not Available Under Construction

Owner Columbia University

Architect

Renzo Piano Building Workshop (Design Architect) CetraRuddy Architecture (Executive Architect)





UNIVERSITY OF CHICAGO DAVID RUBENSTEIN FORUM Chicago, IL



LERA led the structural design of this new 97,000-sf (9,000-sm) center for intellectual exchange, scholarly collaboration and special events, consisting of a 2-story base and a 10-story tower of stacked "neighborhoods" with a zinc-and-glass exterior. A 285-seat auditorium sits above the base.

The Ground Floor contains a restaurant and a large multipurpose space capable of accommodating groups of up to 600 people. The Top Floor of the tower also features a flat-floor multipurpose space accommodating up to 75 people, and offers stunning views of the campus, the Midway Plaisance, the city skyline and Lake Michigan.

Construction Cost	Not Available
Completion Date	2020

Owner University of Chicago

Architect

Diller Scofidio + Renfro – Design Architect; Brininstool + Lynch – Associate Architect

Awards

Platinum Award – Structural Systems, 2022 ACEC NY Engineering Excellence Awards

Award of Excellence – Buildings Category, 2021 Post-Tensioning Institute (PTI) Awards





WEITZMAN HALL RENOVATION & EXPANSION UNIVERSITY OF PENNSYLVANIA

Philadelphia, PA



LERA is providing structural engineering services for a major renovation and expansion to Weitzman Hall at UPenn's Weitzman School of Design, which will double the existing space to as much as 38,500 sf (3,600 sm).

Weitzman Hall will feature a grand entrance foyer, a glasswalled exhibition gallery that opens to a covered outdoor patio, individual and multi-seat studios, faculty offices and large smart classrooms. The design includes a 3,000sf (275-sm) studio space on the top floor of the original building, including the original beams.

Construction Cost Completion Date Not Available Active

Owner University of Pennsylvania

Architect KieranTimberlake



MASSACHUSETTS COLLEGE OF ART & DESIGN **MASSART DESIGN & MEDIA CENTER**

Boston, MA





Existing facility.



New facility.

LERA led the structural design of a new building entry and adaptive reuse of existing spaces for the Massachusetts College of Art.

Prominently located on Boston's "Avenue of the Arts," the 60,176-sf (5,590-sm) LEED Silver facility creates a new central, iconic entry point to the campus, transforming a previously disused old brick gymnasium into modern studio, exhibition and teaching spaces. Built on existing foundations, the new entry features a triple-height atrium with an all-glass facade and an architecturally exposed steel structure, raising the level of transparency on campus.

A key portion of the project involved a large roof replacement/reconfiguration and the retrofit of remaining parts of the existing roof that were not demolished or replaced. Where the existing roof was kept, LERA reinforced the existing systems for modern increases in code loading. LERA also devised and retrofitted a new lateral load system to help deliver seismic loads from the existing roof down to the foundations.

\$40.4 million **Construction Cost** 2016 **Completion Date**

Owner Massachusetts College of Art, **Division of Capital Asset Management**

Architect Ennead Architects



PRINCETON UNIVERSITY DILLON GYM RENOVATION & EXPANSION Princeton, NJ



LERA is the structural engineer for a comprehensive renovation and expansion of the Dillon Gymnasium at Princeton University. The project includes the demolition of existing modular structures located on the Dillon Court area, and the construction of a 2-story addition on the southeast corner of the building; a major renovation of the south portion of the A level, as well as the Stephens Fitness Center in the southwest wing of the building; and the replacement of a heavily corroded exterior stair. The renovation will create a new accessible entrance and lobby on the north side of the south wing, and increase accessibility in most of the building with the inclusion of a new elevator on the south side that will serve all levels of the building. The existing paved parking lot near the tower will be repaved and landscaped to create a new pedestrian entrance plaza.

Seeking LEED Gold certification, the project will also include natural ventilation, mass timber construction and a green roof at the addition. In keeping with Princeton's Sustainability Action Plan, the project will reduce greenhouse gas emissions and water usage, enhance stormwater management in the area and cultivate healthy and resilient habits.

Construction Cost Completion Date Not Available Active

Owner Princeton University Architect DIGSAU+MJMA







PRINCETON UNIVERSITY BUTLER COLLEGE DORMITORIES

Princeton, NJ



LERA was the structural engineer for a new 113,000-sf, 5-building academic complex containing a master's residence and residential suites for graduate students and visiting faculty, as well as common spaces and amenities, such as a café, a lounge, classrooms and computer rooms. The complex also features a landscaped amphitheater sited on the east side, green roofs and sunken courtyards.

The buildings were designed to use 30% less energy than what would be expected under current building codes. Sustainability features include rainwater harvesting, an energy-efficient HVAC system and a waterproofing membrane topped by soil and vegetation.

LERA also performed a study to evaluate an alternative design using precast concrete planks on a structural steel frame.

Construction Cost Completion Date \$88 million 2009

Owner Princeton University

Architect Pei Cobb Freed & Partners





NYU WAGNER SCHOOL OF PUBLIC SERVICE

New York, NY



LERA was the structural engineer for an interior fit-out for the NYU Wagner School of Public Service, entailing a 54,000-sf (5,000-sm) renovation of three floors in Manhattan's historic Puck Building. Structural upgrades included a new architecturally exposed steel stair, a feature wall at the main entry lobby and large openings through existing masonry bearing walls.

Construction Cost Completion Date

\$14 million 2004

Owner New York University

Architect Suben/Dougherty Partnership







CORNELL UNIVERSITY IVES HALL RENOVATION

Ithaca, NY





LERA was the structural engineer for the renovation and addition to the lves Hall Faculty building in Cornell's School of Industrial and Labor Relations. Originally constructed in 1936, the 43,000-sf (4,000-sm) structure was completely renovated to provide a modern, ADA-compliant facility. A portion of the existing building was demolished and replaced with a precast floor plank on masonry block wall system. Additional structural work included new openings for an elevator, stairwells and windows. Retaining walls for a new areaway were designed to service a graduate student basement office.

Construction Cost Completion Date

\$12 million 2010

Owner **Cornell University**

Architect Perkins Eastman



UPITT CATHEDRAL OF LEARNING RENOVATION Pittsburgh, PA



LERA is providing structural engineering services for an interior renovation of the classrooms located at the Second Floor of the University of Pittsburgh Cathedral of Learning in Oakland, Pittsburgh. The project involves developing renovation options for both short term and long term projects, considering the historical significance of the Cathedral of Learning building, and to study the potential combination of some classrooms into larger spaces.

Construction Cost Completion Date Not Available Active

Owner University of Pittsburgh

Architect MCF Architecture



FORDHAM UNIVERSITY LAW LIBRARY

New York, NY



LERA led the structural design of the 160,000-sf renovation and recladding of the old Law Library at Fordham University, originally built in 1960 and expanded in 1983. The renovation consisted of selective demolition, alterations and additions over five levels, creating new library, classroom and office space, including a new 2nd Floor cafe and lounge, new elevators, a new roof with new skylight panels, new rooftop equipment and structural steel dunnage and a new south entry with an ADA-compliant ramp from the existing Ground Floor plaza to the 2nd Floor Level. A new glass curtain wall creates greater openness and transparency.

Construction Cost Completion Date \$70 million 2016

Owner Fordham University

Architect Kevin Hom Architect





CUNY ADVANCED SCIENCE RESEARCH CENTER

New York, NY



The Advanced Science and Research Center (ASRC) and the City College Center for Discovery and Innovation offer a positive presence for the Harlem community, becoming a magnet for nationally and internationally recognized researchers. The 410,000-gsf (38,000-gsm) complex supports high-end research and laboratory space for key and emerging science disciplines, such as photonics, nanotechnology, water and environmental sensing, structural biology and neuroscience. Below grade, the two buildings share a vivarium, a receiving area, building support activities and core facilities, such as Imaging Modalities, behavioral study spaces and cryophysics laboratories.

The ASRC features a 4-story, column-free, sky-lit atrium intended to encourage interaction and cross-collaboration, the result of setting back the façade at the 2nd and 3rd Floors, which created a stack of floating roof slivers. A single offset pipe column, architecturally exposed, extends from the 1st Floor to the 5th Floor roof, providing support for the roof slivers and roof above. This pipe column also resists lateral wind and seismic loads acting on a 70-ft plan length of the 4-story exterior wall of the atrium. An auditorium that can seat up to 100 people is also column-free, boasting an open area of approximately 58 ft by 62 ft. This was achieved by terminating four columns at the second floor onto steel transfer girders, which span 62 ft over the auditorium.

To accommodate stringent vibration criteria required for the installation of highly sensitive imaging equipment and electron microscopes, on grade isolation slabs and floating slabs on neoprene bearings at the Ground Floor limit vibrations to 125 to 250 µin/second, well below the target limit of 500 µin/second.

LERA helped the ASRC to achieve LEED Gold certification by utilizing materials that comply with LEED standards, such as recycled steel, concrete with high fly ash content and low-VOC curing and sealing compounds.

Construction Cost\$350 million (ASRC); \$600 million (complex)Completion Date2014

Owner

Dormitory Authority of the State of New York; City University of New York

Architect

Flad Architects – Architect of Record; Kohn Pedersen Fox – Design Architect







CUNY JOHN JAY COLLEGE OF CRIMINAL JUSTICE ACADEMIC BUILDING I

New York, NY







Serving as John Jay College's "academic city within a city," Academic Building I provides CUNY and the Uniform Members of the Service (UMOS), NYPD, FDNY and DOC with a state-of-the-art educational and leadership facility. The project consists of a 14-story tower, perched above very shallow Amtrak rail lines, with a 4-story podium structure. The 625,000-sf (58,000sm) building contains classroom, laboratory, office, auditorium, cafeteria and social spaces, as well as a ballistics laboratory with active firearm testing. A 55,000-sf (5,100sm) landscaped green roof serves as a new campus commons. The building also connects to the historic Haaren Hall building, built in 1903, via an overhead walkway.

To accommodate Amtrak rail lines that pass directly underneath the Ground Floor, LERA devised a complex foundation system comprised of drilled-in caissons and cast-inplace concrete piers, doubling the structural layer within minimal depth and isolating the track enclosure from the building. Neoprene pads were also strategically placed to limit the transmission of vibration and noise from one layer to the other (additional vibration analysis was performed for laboratory areas). A system of perimeter hangers, supported by a grid of trusses at roof level, is integral to the design of long span framing and cascading stairs. These perimeter hangers lessen the load on the track enclosure, transferring it to the building core.

Construction Cost Completion Date

\$352 million 2011

Owner

Dormitory Authority of the State of New York

Architect Skidmore, Owings & Merrill

Select Awards

Excelsior Award for Public Architecture, 2017 AIA New York State

Presidential Award, 2015 AISC IDEAS² Awards



CUNY MEDGAR EVERS COLLEGE ACADEMIC BUILDING I

Brooklyn, NY



Located in the Crown Heights neighborhood of Brooklyn, Medgar Evers College is a crucial component of the surrounding community. The college offers a range of science, business and liberal arts programs, and Academic Building I enriches the campus through the addition of new laboratory and learning facilities.

The 195,000-sf (18,000-sm), 6-story academic facility contains laboratories, classrooms, offices and support spaces, and features four teaching labs and a hospital simulation room for the Nursing Program, as well as laboratories for the Molecular Biology, Anatomy, Physiology, Microbiology and General Biology departments.

LERA led the structural design of the building, which features large, sloping V-columns in the atrium and a structurally glazed façade, and provided demolition drawings for the demolition of an existing Department of Sanitation garage to make way for the new facility.

Construction Cost\$243 millionCompletion Date2010

Owner Dormitory Authority of the State of New York

Architect Ennead Architects





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CUNY HUNTER COLLEGE SARA DELANO ROOSEVELT HOUSE RENOVATION

New York, NY



Listed on the National Register of Historic Places, the Sara Delano Roosevelt House was built in 1907 as a home for Franklin and Eleanor Roosevelt. The 20,000-sf (1,900-sm), 6-story building was acquired by Hunter College in 1942.

LERA was the structural engineer for a full-scale renovation to accommodate Hunter College's new Public Policy Institute, which contains state-of-the-art academic conference and lecture uses. Project features include a façade restoration, new elevator and stairs, an MEP systems upgrade and an addition that creates a large, double-height lecture hall that can seat up to 100 people.

Construction Cost	\$20 million
Completion Date	2010

Owner

Dormitory Authority of the State of New York/ City University of New York

Architect Ennead Architects





CUNY LEHMAN COLLEGE SCIENCE FACILITY

Bronx, NY



LERA was the structural engineer for a new 69,000-sf (6,400-sm) science facility featuring an entry defined by a multi-story glass atrium linking graduate and undergraduate wings, a central courtyard containing a constructed wetland that serves as a model of urban biotecture, and an elevated walkway connecting the new building to Gillet Hall, an historic 1930s Gothic revival classroom building. The project also included the renovation of Gillet Hall.

Achieving LEED Platinum certification, the science facility was the first LEED-certified building in the City University of New York, and is intended to serve as a "campus within a campus" offering laboratory, teaching and administrative functions to the broader community.

Construction Cost\$60 millionCompletion Date2012

Owner

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

Architect Perkins + Will





CUNY LEHMAN COLLEGE | NURSING, EDUCATION, RESEARCH AND PRACTICE CENTER

Bronx, NY



LERA is the structural engineer for a new 50,000-sf, 3-story building for the Lehman College Department of Nursing. The building will contain laboratories, offices and student and support spaces, and will connect to the underground walkway system that links all of the buildings on campus. The project also involves the demolition of a 1-story temporary building currently on site in order to make space for the new building.

Construction Cost	\$70 million
Completion Date	Under Construction

Owner Dormitory Authority of the State of New York; The City University of New York

Architect Urbahn Architects

CUNY HOSTOS COMMUNITY COLLEGE ALLIED HEALTH & NATURAL SCIENCE COMPLEX Bronx, NY



LERA was the structural engineer for a new 170,000-sf (15,800-sm) health and science building located on the site of an abandoned factory building to be demolished. The new complex will house all of Hostos' Allied Health programs, the Natural Sciences Department and related laboratories, classrooms and computer labs. The building will also be home to a new dental hygiene patient care center and a community health center. Sustainable design features include a high-performance façade, photovoltaic panels and modern MEP systems.

Construction Cost Completion Date \$125 million 2017 (Schematic Design)

Owner

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

Architect Flad Architects





SUNY STONY BROOK UNIVERSITY INDOOR PRACTICE FACILITY Stony Brook, NY



LERA was the structural engineer for the foundations of a new 60,000-sf (5,600-sm) multi-sport practice facility constructed from a prefabricated double-skin, insulated fabric membrane structure tensioned over a galvanized steel frame, as well as a connected 1-story, 4,000-sf (370-sm) fieldhouse containing restrooms, changing areas, a lobby, a meeting/film review room, a facility manager's office, a trainer's office, storage rooms and incoming service rooms for electric, plumbing and IT. The 180-ft by 315-ft, 70-ft tall prefabricated tension fabric structure covers an 80-yard artificial turf field.

The practice facility achieved LEED Silver certification.

Construction Cost	\$9.6 million
Completion Date	2020

Owner State University of New York

Architect Rafael Viñoly Architects







SUNY WESTCHESTER COMMUNITY COLLEGE GATEWAY CENTER

Valhalla, NY



LERA was the structural engineer for this new home for business and multilingual programs, as well as the Professional Development Center, creating new, dynamic opportunities for student growth and collaboration.

The 70,000-sf (6,500-sm) LEED Gold complex consists of three new buildings. The Gateway, a large and open volume serving as a lobby, is flanked by two buildings containing classrooms, offices, an auditorium, a student lounge and a cafeteria. The Gateway's unique structural design features architecturally-exposed, stackable steel "boxes," which were prefabricated and bolted together on site.

A steel bridge crosses the Gateway, linking the three buildings. The site is further distinguished by a 65-ft (20-m) steel tower, which is lit at night to act as a campus beacon.

Construction Cost	\$33 million
Completion Date	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)





SUNY COBLESKILL AGRICULTURAL SCIENCE & TECHNOLOGY CENTER Cobleskill, NY



LERA led the structural design of the new Center for Agriculture and Natural Resources, consolidating the previously dispersed departments of Plant Sciences, Fisheries and Wildlife, Agricultural Business and Animal Sciences into a new modern campus. Designed to meet LEED Silver criteria, the facility consists of five levels above grade, with a gross area of 100,931 gsf (9,377 gsm), and contains classrooms, laboratories, a conservatory greenhouse, cold water fisheries, a meat cutting lab, conference and office space, a lecture hall, computer labs and a café overlooking a monumental stair. Part of the project involved the design of a concrete pad to support a new 450 ekW emergency generator.

Construction Cost\$32 millionCompletion Date2014

Owner State University of New York; State University Construction Fund

Architect Ennead Architects





SUNY DOWNSTATE MEDICAL CENTER NEW ACADEMIC BUILDING, SCHOOL OF PUBLIC HEALTH Brooklyn, NY



LERA was the structural engineer for the 115,000-sf (10,700-sm) New Academic Building for the School of Public Health at SUNY Downstate, which will serve as Brooklyn's only academic medical center. The facility contains healthcare simulation centers, research center laboratories, classrooms, a data center and administrative space, and is divided into three distinct "bars": research laboratories on the top, office and additional research facilities in the middle and social and teaching spaces on the bottom.

The building's defining feature is a set of three architecturally exposed and illuminated V-columns that carry the load of the western half of the building, touching the ground at three points and creating a 30-ft-high public entry plaza.

Construction Cost\$74 millionCompletion Date2017

Owner SUNY Downstate Medical Center

Architect Ennead Architects





SUNY NEW PALTZ ENGINEERING INNOVATION HUB New Paltz, NY



LERA was the structural engineer for the Engineering Innovation Hub (EIH) at SUNY New Paltz, a new 19,500-sf, 2-story home for the university's mechanical engineering program, which also houses the headquarters and laboratories of the Hudson Valley Advanced Manufacturing Center (HVAMC) and serves as a business incubator for technology and engineering startups.

The LEED Gold-certified facility contains a multitude of laboratory space, including several research labs, a 1,900-sf teaching lab, a state-of-the-art 3D print prototyping lab, a 1,200-sf computer lab and labs for the HVAMC, as well as offices, mechanical and electrical rooms, classrooms, a 300-sf conference room and collaborative and lounge spaces. Designed to eliminate the need for extensive rock excavation, the steel framed building with spread footing and slab-on-grade foundation features glazed curtain wall systems to maximize natural light.

Construction Cost\$14 MillionCompletion Date2019

Owner State University of New York; State University Construction Fund

Architect Urbahn Architects





SUNY UNIVERSITY AT ALBANY SCHOOL OF BUSINESS

Albany, NY



LERA was the structural engineer for the new 96,000-sf (8,920-sm) School of Business building at SUNY Albany, a modern hub of innovative learning in commerce and entrepreneurship. Flanking the newly renovated campus entry plaza, the complex features a first-level "interior street" that connects to the campus through a network of walkways and pedestrian tunnels. Framed in steel, the school offers classrooms, conference space, faculty and support offices, multiple atriums and a sunken garden, and features 2-story vertically-oriented structural glass mullions laterally braced with horizontal tension cables.

Sustainability was at the heart of the design: the LEED Goldrated facility incorporates maximum natural light (with a responsive lighting control system and clerestory skylights), specially designed precast panels, triple-glazed insulated glass and low-velocity ventilation.

Construction Cost\$35 millionCompletion Date2013

Owner State University Construction Fund

Architect Perkins + Will





SUNY UNIVERSITY AT ALBANY PHYSICAL EDUCATION BUILDING RENOVATION Albany, NY



LERA is the structural engineer for the phased renovation of the Physical Education Building for the Athletics and Campus Recreation Departments at SUNY Albany. The renovation consists of a restacking of program within the building, as well as an MEP energy system retrofit.

The 148,125-sf (13,761-sm) building was completed in 1968, and was designed by architect Edward Durell Stone. The building is eligible for inclusion on the U.S. Register of Historic Places.

Construction Cost Completion Date \$58 million Active

Owner

State University Construction Fund; State University of New York

Architect S/L/A/M Collaborative





SUNY CORTLAND BOWERS HALL RENOVATION AND ADDITION Cortland, NY

Originally constructed in 1960, the existing 3-story (plus basement) science building has a conventional rectangular layout with a double-loaded corridor. The superstructure is composed of concrete-encased structural steel with beams located only along column lines. The infill slabs between girders are full bay waffle slabs cast over left-in-place hollow precast concrete void formers. As with buildings of that era, ventilation and air conditioning was minimal in the original design.

The renovation and expansion grew the total square footage to 108,000 sf, and features a new contemporary HVAC system. The 22,000-sf expansion added a new lobby and auditorium at the 1st Floor, a two-story teaching lab bar over the lobby, an adjacent planetarium and a new exterior stair tower. Furthermore, a new two-story mechanical penthouse was added, with each original supporting column (and their associated footings) requiring reinforcement to support the additional penthouse load. Structural alterations were needed for two reorganized interior stairs, a renovated elevator and new mechanical risers.

The story height of the original building was 11'-0" and the structural depth was 20". The new adjacent addition matches these dimensions through the use of reinforced cast-in-place concrete construction. However, these dimensions do not accommodate conventional, contemporary HVAC systems. As a result, the design featured a complete structurally enclosed rooftop horizontal duct distribution system, emanating from the mechanical penthouse, that feeds new structurally enclosed exterior duct risers at every original perimeter column location. Each exterior duct riser services a vertical stack of three classrooms within a full column bay.

The original 1960 structure was designed for little to no wind load, and was not designed for any seismic load. The new design, therefore, with its expanded height due to the penthouse, required significant strengthening to accommodate contemporary wind loads. Following the provisions of the code, we determined that the renovation did not need to comply with contemporary seismic loads. Strengthening for wind loads was accomplished through the insertion of four new full-height shear walls, each comprised of a distinct story segment (from the slab to the underside of the beam above), for each of the four stories of the original structure.

Construction Cost	\$23 million
Start Date	2009
Completion Date	2015

Owner State University Construction Fund

Architect ZGF Architects









SUNY FARMINGDALE ROOSEVELT HALL REHABILITATION

Farmingdale, NY



LERA is the structural engineer for a renovation and rehabilitation of Roosevelt Hall, a 1-story, 72,661-sf (6,750-sm) building originally built in 1965. Its use is for physical education and student activities. Renovations include MEP upgrades, a new Main Entrance stair, enlargement of an existing elevator and a new storefront with new sun shade.



Construction Cost Completion Date \$24.8 million Active

Owner

State University of New York; State University Construction Fund

Architect

Plan A





Pictured (top to bottom): Renderings of the revamped facility (top two); photos of the existing Roosevelt Hall (bottom two).



ROCK & ROLL HALL OF FAME AND MUSEUM Cleveland, OH



Designed for lake ice loading, the 143,000-sf (13,000-sm) Rock and Roll Hall of Fame and Museum contains exhibition space, a cantilevered auditorium, a disc jockey booth, office space, a museum shop, a café and outdoor terrace and a public plaza. LERA led the structural design of the museum, which was completed on a fast-track schedule.

The design combines geometric forms and cantilevered spaces, including 50,000 sf (4,600 sm) of exhibition space beneath a soaring "glass tent" spanning 260 ft (80-m), which engages an 8-story, 165-ft (50-m) tower containing the Hall of Fame.

On the lakeside, the tower meets the water, requiring construction of concrete caps poured over steel piles that extend into the bedrock. The 125-seat Foster Theater cantilevers 65 ft (20 m) out from the tower over the surface of Lake Erie, 60 ft (18 m) above the lake's surface.

Construction Cost\$85 millionCompletion Date1995

Owner The Rock & Roll Hall of Fame Foundation

Architect Pei Cobb Freed & Partners





EK

ROCK & ROLL HALL OF FAME AND MUSEUM EXPANSION AND RENOVATION

Cleveland, OH



The 143,000-sf (13,000-sm) Rock and Roll Hall of Fame and Museum is currently undergoing a significant expansion and renovation, representing a combined 86,100-sf (8,000-sm). LERA was the structural engineer for the original facility, designed by I.M. Pei in 1995, which contains exhibition space, a cantilevered auditorium, a disc jockey booth, office space, a museum shop, a café and outdoor terrace and a public plaza. The new addition building will be made of galvanized steel and will include a rooftop deck overlooking Lake Erie, which consists of a hybrid timber-steel roof structure using CLT panels and glulam beams.

The original design combines geometric forms and cantilevered spaces, including 50,000 sf (4,600 sm) of exhibition space beneath a soaring "glass tent" spanning 260 ft (80-m), which engages an 8-story, 165-ft (50-m) tower containing the Hall of Fame.

On the lakeside, the tower meets the water, requiring construction of concrete caps poured over steel piles that extend into the bedrock. The 125-seat Foster Theater cantilevers 65 ft (20 m) out from the tower over the surface of Lake Erie, 60 ft (18 m) above the lake's surface.

Construction Cost\$100 millionCompletion DateActive

Owner The Rock & Roll Hall of Fame Foundation

Architect PAU Studio





CORNELL UNIVERSITY JOHNSON MUSEUM OF ART - NEW WING





LERA was the structural engineer for a new 17,000-sf addition to the Herbert F. Johnson Museum of Art, as well as renovations to the existing 5-story, 60,000-sf facility. Originally designed by I.M. Pei in 1973, the new wing adds a dramatic new sculptural glass-and-concrete entryway and lobby, gallery space, art storage, office space, workshop studios and a 150-seat lecture hall. The site's sloping topography allows daylight to penetrate down to the gallery level, providing views throughout of a Japanese garden set into the hillside. Linked to the main building on two levels below grade, the addition's separate entry makes it possible to host events without having to open the museum in its entirety. A 6,000-sf renovation to the 5th Floor expanded gallery space for the Asian art collection by 50%.

Construction Cost \$6 million **Completion Date** 2011

Owner **Cornell University**

Architect Pei Cobb Freed & Partners





MUSEUM OF CONTEMPORARY PHOTOGRAPHY RENOVATION & EXPANSION

Chicago, IL



LERA is the structural engineer for the renovation and expansion of the existing museum facilities located on the Ground, Mezzanine and Second Floors of the Museum of Contemporary Photography. The project includes reimagining the interior space on the Ground Floor, an independent street-front entrance, larger and flexible gallery spaces, administrative and classroom spaces, larger archive/vault spaces, elevator access and ADA upgrades.

The existing 15-story building, constructed around 1906, is framed with structural steel and clad with a limestone and brick façade, and is a designated Chicago Landmark. Structural modifications include the reinforcement of the existing floor systems as required to create openings for new stairs and elevators, as well as MEP openings, the infill of existing openings no longer required, miscellaneous metals required to support new windows and signage, a new elevator pit, column enlargement/reinforcing at double-height spaces and a new circulation stair.

Construction Cost	Not Available
Completion Date	Active

Owner Columbia College Chicago

Architect Brininstool + Lynch





LER

LUCAS MUSEUM OF NARRATIVE ART

Los Angeles, CA



Founded by philanthropist and filmmaker George Lucas and his wife, Mellody Hobson, President of Ariel Investments, the Lucas Museum of Narrative Art will inspire current and future generations through the universal art of visual storytelling. The museum will present permanent collection and rotating exhibitions for diverse public audiences, which will feature illustrations, paintings, comic art, photography and an indepth exploration of filmmaking (including storyboards, costumes, animation, visual effects and more).

Extensive education programming designed for all ages will explore innovative ways for visitors to engage with narrative art. Designed by renowned architect Ma Yansong and under construction in Los Angeles' Exposition Park, the museum will feature new public green space, state-of-the-art cinematic theaters, a research library, numerous spaces for onsite education, restaurants, retail and event spaces.

LERA is providing structural engineering services for the museum and surrounding landscape.

Completion Date Under Construction

Owner Lucas Museum Foundation

Architects MAD Architects – Design Architect Stantec – Architect of Record

BROAD ART MUSEUM

Los Angeles, CA

Located in downtown Los Angeles, the 3-story, 120,000-sf Broad museum is home to nearly 2,000 works of postwar and contemporary art. The museum's unusual design is formed by two key elements: an interior "vault" structure and an exterior "veil" envelope.

The vault stores most of the museum's collection, in addition to providing research and lending facilities. With a total of 50,000 sf of column-free gallery space, the museum can exhibit up to 300 artworks at any time. The vault is enveloped on all sides by the veil, an airy, honeycomb-like structure composed of 2,500 concrete panels with more than 400 trapezoidal shapes, which form skylights that flood the top floor gallery with natural light. A 3-level, 150,071-sf parking garage partly below grade serves as the museum's foundation, and contains utilities, a loading dock and a heavy-duty elevator. LERA worked on this project in collaboration with Nabih Youssef and Associates, Los Angeles.

Construction Cost\$68 millionCompletion Date2015

Owner

The Broad Art Foundation

Architect

Diller Scofidio & Renfro in association with Gensler

MILWAUKEE PUBLIC MUSEUM FUTURE MUSEUM

Milwaukee, WI

LERA is the structural engineer for a new 5-story, 200,000-sf (18,580-sm) home for the Milwaukee Public Museum. The First Floor will house an open museum commons atrium where visitors and the public can gather and bask in natural light from a sunlit lightwell, while the four upper levels of exhibit space will be offset from neighboring floors in the Museum's collections storage lobe, allowing visitors to peek into and preview different exhibit floors and collections that are not part of specific exhibits or dioramas. The new museum will also include two gardens, one near the entrance to the museum and one on the rooftop. A separate 50,000-sf (4,650-sm) storage space will house additional collections offsite.

Influenced by the ecological histories of Milwaukee and Wisconsin, the design of the new museum is reminiscent of the geological formations in Mill Bluff State Park, emblematic of the region's diversity of landscapes formed by the movements of water through time, and the museum's interior commons is further inspired by the convergence of Milwaukee's three rivers.

Construction Cost\$250 millionCompletion Date2026 (estimated)

Owner Milwaukee Public Museum

Architect Ennead – Design Architect; Kahler Slater – Architect of Record

NATIONAL PURPLE HEART HALL OF HONOR RENOVATION AND EXPANSION

New Windsor, NY

LERA was the structural engineer for the renovation and expansion of the National Purple Heart Hall of Honor, which commemorates the nation's service men and women who were killed or wounded in combat. The existing 7,500-sf (700-sm) facility opened to the public in 2006, and is physically connected to the New Windsor Cantonment Historic Site Building.

The new 4,300-sf (400-sm) expansion improves visitor circulation, increases reception/orientation space and program/ event space, integrates new audio-visual displays and provides additional collection storage space.

Construction Cost	\$17 million
Completion Date	2020

Owner NYS Parks, Recreation and Historic Preservation

Architect ikon.5 Architects

Awards

Award of Merit – Open Category, 2021 American Institute of Architects (AIA) New Jersey

NASCAR HALL OF FAME AND MUSEUM

Charlotte, NC

The design for the 175,000-sf (16,250-sm) NASCAR Hall of Fame and Museum mirrors the sinuous shape of a racetrack, creating a dynamic architectural form and space for visitors. LERA devised a complex structural system employing curved and sloped forms as motifs to house the project's Great Hall and related exhibits. Longspan roof trusses spanning 175 ft enable the extra-large Ballroom to be column-free, while 2- and 3-story trusses cantilever 30 ft over the broadcast studio.

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

The complex totals five acres in all, with the museum as its centerpiece, in addition to a 19-story office tower, a 102,000-sf (9,500-sm) expansion to the Charlotte Convention Center, a 100-ft-long bi-level pedestrian bridge connecting the Ballroom to the existing Convention Center, a 12,000-sf black box production center and a post-tensioned concrete parking garage located beneath the Ballroom that can accommodate up to 1,000 cars.

Construction Cost\$200 millionCompletion Date2010

Owner City of Charlotte

Architect Pei Cobb Freed & Partners

WILLIAM JEFFERSON CLINTON PRESIDENTIAL LIBRARY & MUSEUM

Little Rock, AR

In response to President Clinton's desire to "put things in the light," the 165,000-sf (15,000-sm) 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 LEED Silver museum houses archive and exhibit spaces, as well as 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 and personal life. 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 open and inviting to the public.

Construction Cost\$90 millionCompletion Date2004

Owner Clinton Presidential Foundation

Architect Ennead Architects

NEW YORK HALL OF SCIENCE ADDITION

Queens, NY

The New York Hall of Science provides a hands-on experience for members of the community to explore science and technology. In an ongoing effort to improve their facilities, the Hall of Science, in collaboration with the New York City Department of Design and Construction and the New York City Department of Cultural Affairs, implemented the second phase expansion of their master plan, featuring an innovative program that utilizes sustainable design to promote energy efficiency.

LERA was the structural engineer for a 70,000-sf (6,500-sm) addition that provides expanded space for permanent and temporary exhibits, as well as exhibition preparation and shop facilities. It features the 'Hall of Light,' an exposed steel structure that spans a day-lighted 225-ft by 50-ft (69-m by 15-m) exhibit hall. The form of the exposed structure complements the architect's vision, and encompasses the desired "structure-as-exhibit" motif. LERA was also the structural engineer for an ensuing rehabilitation of the existing Great Hall, constructed for the original World's Fair in 1964, including an exterior façade restoration, terrace improvements and interior renovation.

Construction Cost Completion Date \$90 million (addition); \$25 million (restoration) 2004 (addition); 2015 (restoration)

Owner

New York City Department of Design & Construction

Architect Ennead Architects

NATIONAL MUSEUM OF AMERICAN JEWISH HISTORY

Philadelphia, PA

LERA led the structural design of a new 100,000-sf (9,300-sm) museum housing cultural and learning resources. The building is composed of two distinct structures: a terracotta volume containing galleries, conference and administrative space; and a glass volume containing additional exhibition space, which cantilevers onto Independence Mall. The building also houses the Dell Theater below grade, offering event space for conferences, lectures and presentations.

Construction Cost Completion Date \$150 million 2010

Owner National Museum of American Jewish History

Architect Ennead Architects

NEWSEUM AND FREEDOM FORUM

Washington, DC

A monument to journalism and free speech, the 650,000-sf (60,000-sm) Newseum and Freedom Forum features a 2-story media wall and a glass façade, reflecting the principles of honesty and transparency. A defining 4,500-sf (420-sm) tension cable window wall and monumental stair was realized through LERA's design of a unique truss system. Four below-grade levels are built with reinforced concrete, and a 16-in-thick foundation retains soil at the building's perimeter. In addition to gallery, office and retail space, the 7-story museum houses the 500-seat Annenberg Theater, which hosts both film screenings and lectures, panels and presentations, as well as the Knight TV Studio, a 2,800-sf technologically advanced black box broadcasting facility that seats up to 150 audience members.

Construction Cost	\$230 million
Completion Date	2008

Owner Freedom Forum

Architect Ennead Architects

NATURAL HISTORY MUSEUM OF UTAH

Salt Lake City, UT

The Natural History Museum of Utah is built on a delicate site on the eastern edge of the University of Utah campus in Salt Lake City. The 170,000-gsf (16,000-gsm) museum includes gallery space, classrooms, research laboratories and a separate parking structure for 200 cars.

With copper façade cladding that covers approximately 42,000 sf (3,900 sm) of the building's exterior, the structure blends seamlessly into the surrounding desert landscape.

By utilizing concrete made from recycled fly ash, as well as other locally sourced materials, LERA helped the museum to achieve LEED Gold certification.

Construction Cost Completion Date \$103 million 2011

Owner University of Utah

Architect Ennead Architects

LAS VEGAS SPRINGS PRESERVE VISITOR CENTER

Las Vegas, NV

LERA led the structural design of the 90,000-sf (8,400-sm) Visitor Center at the Las Vegas Springs Preserve, featuring sustainable, regional, durable, recyclable and low-maintenance materials, such as native stone walls, weathered steel siding and energy efficient glass. The Visitor Center consists of two buildings: an exhibit building, containing exciting and interactive exhibitions dedicated to the cultural and natural history of the Las Vegas Valley, and an administrative building, containing offices, guest services and a restaurant. The complex also features a 20,000sf (1,800-sm) shade structure. Designed to meet LEED Platinum standards, the totally exposed steel, masonry and concrete structural systems—featuring the first use of Self-Consolidating Concrete (SCC) in the state of Nevada—contribute to the project's overall sustainability.

Construction Cost\$7Completion Date20

\$72 million 2007

Owner Las Vegas Springs Preserve

Architect

Tate Snyder Kimsey Architects

Awards

Platinum Award for Engineering Excellence, ACEC New York, 2008 Award of Merit, American Institute of Steel Construction, 2008 Honor Award, AIA Nevada Design Award, 2003

