**EDUCATION**

**SWARTHMORE COLLEGE** Swarthmore, PA
Bachelor of Science in Engineering / Bachelor of Arts in Studio Arts June 2007

**LICENSES**

Registered Professional Structural Engineer and Civil Engineer in California
Registered Professional Engineer in New York
LEED AP
ICC Special Inspector – Bolting and Welding
ATC 20 and ATC 45 Trained
CalOES SAP Disaster Service Worker
NYC 4-hour Scaffold Training Licenses

**PROFESSIONAL ASSOCIATIONS**

Member, Structural Engineering Association of New York (SEAoNY)–Codes Committee
Editorial Board Member for STRUCTURE® magazine
ACE Mentoring Program
Chair, American Society of Civil Engineers, Structural Engineering Institute's Young Professionals Committee
Member, New York City Department of Buildings 2018 Code Revisions Appendix G Flood-Resistant Construction Advisory Committee
American Society of Structural Engineers (ASCE) 24-20 Flood Resistant Design and Construction Committee Voting Member
American Society of Structural Engineers (ASCE) 7-22, Flood Load Subcommittee, Voting Member, Secretary, Balloteer and Historian
Member, American Wood Council's Wood Design Standards Committee Wind and Seismic Task Group on Shear Wall Deflection

**EXPERIENCE**

**GILSANZ MURRAY STEFICEK** **June 2007 to Present**
PARTNER

**250 Sagg Main Street – Sagaponack, NY**
GMS is providing structural services for a new two-story plus basement house, structural support of sculptures around the property, renovation of the existing pool house, design of a new recreational building, and providing an enclosure for the generator at the motor court. The house features a gallery, wine cellar, theater, gym, sauna, children's playroom and art room, storage, laundry, and MEP space, as well as a great room library, garage, and outdoor spa. The basement's fully waterproofed walls and pressure slab are designed to withstand rises in the water table under flood conditions.

**Yale Peabody Museum - New Haven, CT**
GMS is providing structural engineering services for the expansion and renovation of Yale Peabody Museum. The project will include a four-story 65,000 sf infill addition to the existing museum consisting of a gateway terrace, galleries, study spaces, three-story atrium, glass tower, and a new 4,400 sf loading pavilion with a planted green roof, as well as extensive modifications to the existing historic structure built in 1925. In addition, GMS will work on smaller renovations to portions of the Kline Geology Building and the Environmental Science Center and will be replacing a pedestrian bridge linking the museum to the Kline Geology Building. The Museum plans to re-

open by June 2023.

**Southern Connecticut State University Science Center – New Haven, CT**
The new Academic and Laboratory Science Building hosts teaching and research labs for physics, earth science, environmental science, molecular biology and chemistry. It includes a supercomputing lab for research in theoretical physics, bioinformatics and computer science within four-stories and 103,608 sf. The building was entirely designed and documented in BIM using Revit and is LEED Gold certified.

**437 Madison Avenue – New York, NY**
A complete building capital improvement program was recently completed at 437 Madison Avenue featuring fully modern environments, including redesigned lobby and plaza area, upgraded interior corridors and bathrooms, new building systems and mechanicals, and restored exteriors. GMS was retained to provide structural and waterproofing consulting services throughout the program including the 3-sided Plaza.

**Galvanize, 315 Hudson Street – New York, NY**
GMS provided structural engineering services for the design of a new elevator between the ground and second floors and for the mechanical rooms associated with the tenant fitout. The project also required a new storefront to provide a separate lobby and street entry for Galvanize to occupy the entire 35,000 sf second floor at 315 Hudson Street.

**GEER/ATC Post-Earthquake Reconnaissance Team to Meinong Taiwan in 02/2016**
Field evaluation along with the USGS of structures damaged in the Tainan vicinity following the February 2016 earthquake in Kaosiung/Meinong. Review of failure of primarily concrete structures with soft stories and captive columns.

**MCC Theater – 515 West 52$^{nd}$ Street, New York, NY**
GMS provided structural engineering services for two theaters, which involved the design of stages platforms, balconies, seating areas, catwalks, rigging and a new control room.

**New York City Rescue Mission – 90 Lafayette Street, New York, NY**
GMS provided structural engineering services for the addition of three stories, approximately 11,000 sf, over the existing three-story building, and reinforcing the structure to resist increased wind and seismic loads. The project also requires review and approval from the New York City Transit Authority due to the adjacent subway line.

**ASCE Funded Study: *Hurricane Sandy – October 29, 2012. An Urban Flooding Study***
Surveyed flood damage to urban (primarily high rise) buildings in downtown Manhattan following Hurricane Sandy. Interviewed building managers regarding events and floor areas affected. Assisted team leader Bill Coulbourne with recommendations to be included in commentary of ASCE 24.

**New York City Department of Buildings, Emergency Services for Sandy**
Surveyed buildings in Downtown Manhattan, Brighton Beach, and the Rockaways. Posted buildings with placards in compliance with ATC 45 guidelines and New York City Building Department instructions. Filed damage reports for each property.

**Murphy Residence – Bridgehampton, NY**
GMS was retained to provide structural engineering services for a new two-story residence with lower level and roof deck. The building cantilevers on several sides at each floor level. Design of elevated main house in AE flood zone. Design of mechanical equipment bunkers in AE flood zone.

**Gulf of Mexico Drive – Longboat Key, FL**
Design of elevated main house, pool, and mechanical bunker in AE flood zone within the state Coastal Construction Control Line. Architecturally exposed post-tensioned concrete construction.

**Seascape Lane – Sagaponack, NY**
Design of elevated pool house and dry flood proofed pool equipment bunker in VE Zone. Design of elevated main house and elevated guest house in AE Zone.

**Pear Lane – Greenwich, CT**
Design of elevated pile supported main house in VE flood zone. Design of elevated pile supported guest cottage in AE flood zone.

**First Neck Lane – Southampton, NY**
Design of main house and accessory structures in AE flood zone. Dry floodproofed below grade mechanical space and watertight entry.

**200 Water Street – New York, NY**
Design for enclosed existing arcade at ground floor level to create new retail space. New enclosure is within AE flood zone. Design of storefront and plaza for flood loading. Analysis of ground floor slab for bouyant forces.

**Marionette Square Apartments – Los Angeles, CA**
GMS provided the structural engineering for the new Mixed-Use development which maintains the facade of the Bob Baker Marionette Theater. The $18.5 million project will include four levels of market rate flats and townhouse apartments above two levels of parking and commercial space.

**639 Fairfax Mixed-Use Development – Los Angeles, CA**
GMS provided structural engineering for the new, 48-unit mixed-use building about 44,000 sf total which will consist of five stories above grade and one level of subterranean parking. Apartments will include loft space and roof decks.

**4220 Montclair Street Apartments – Los Angeles, CA**
GMS provided the structural engineering for the new five-story, 46-unit apartment building with grade-level and subterranean parking at 4220 Montclair Street. A 1,500

sf retail space will be located on the ground floor along with an on-grade parking lot. The floors above will consist of a mix of studio and one-bedroom apartments totaling roughly 21,800 sf of residential space. Community spaces will include a central courtyard and roof deck.

**James Turrell – Aten Reign, Solomon R. Guggenheim Museum, New York, NY**
GMS provided structural engineering for James Turrell's first exhibition in a New York museum since 1980. AtenReign focuses on the artist's groundbreaking explorations of perception, light, color, and space, with a special concentration on the role of site-specificity in his practice. The art reorients visitors' experiences of the rotunda from above to below; using natural and LED lighting to give viewers an entirely new experience of the building. Other works from the artist's career are displayed in the museum's Annex Level galleries, offering a complement and counterpoint to the new work in the rotunda. Summer 2013.

**PS 1 Contemporary Art Center, Visitors Center – Queens, NY**
A new single-story, architectural concrete entry building for PS 1, constructed within the existing courtyard walls.

**BAC Theater, Orchestra of St. Luke's – New York, NY**
Structural engineering services for a rehearsal facility for the Orchestra of St. Luke's at the existing space of 450 West 37th Street, New York, NY. The scope of structural services includes the renovation of two theaters, public spaces and some offices, totaling approximately 15,000 gsf.

**Staten Island Zoo Leopard Enclosure – Staten Island, NY**
Leopard Enclosure at the Staten Island Zoo includes a mesh roof supported by cables, five interior columns, and perimeter columns. Interior columns were clad with shotcrete to obtain a tree-like appearance. There are also helical anchors between mesh walls and the ground and a gabion wall at the perimeter.

**St. Martin's Lane House – Chestnut Hill, PA**
GMS provided structural engineering services for a new two-story private resident with basement. The residence featured exposed concrete board formed walls,

**Celine – 870 Madison Avenue, New York, NY**
GMS provided structural engineering services for the store renovation within an existing five-story building. The renovations include removing a portion of the second floor and installing a grand new stair to connect the two retail levels. Large marble slabs were supported by reinforcing the existing wood floors.

**Maurizio Cattelan, Solomon R. Guggenheim Museum – New York, NY**
The installation involved the suspension of the artist's repertoire from the oculus of the museum rotunda. GMS provided structural engineering services for the exhibition, working closely with the museum's mount, fabrication, and conservation departments in order to support each work of art. The exhibit is a novel approach to the viewing of

art and will be sure to have an impact on the way that museums display art in the future. November 2011 to January 2012.

**The Jerome Robbins Theater at Baryshnikov Arts Center – New York, NY**
This dynamic performance laboratory and art creation space for dance, movement, music and theatre was created within an unused assembly space at 450 West 37th Street – a building GMS completed in 2004. The new venue provides unobstructed views of the stage and excellent acoustics which are readily adjusted. The project is the winner of the LiveDesign 2010 Excellence Award for Venues (Theatre or Performance).

**Cai Guo-Qiang: I Want to Believe, Solomon R. Guggenheim Museum – New York, NY**
This exhibition included nine cars stripped of their engines, reinforced and suspended at different heights within the rotunda; 99 stuffed wolves; several boat hulls; and a fiberglass "river," among other things. GMS worked with the museum's Fabrication Department to sequence the installation of each piece; we checked the capacity of the original building to support the art and specified the cables, connectors and anchors to realize this exhibit. February 22 to May 28, 2008.

**Virgin Atlantic Clubhouse - Newark International Airport – Newark, NJ**
GMS provided the structural engineering for the newly renovated Virgin Atlantic Clubhouse at the Newark International Airport.

**Stapleton Branch Library – 132 Canal Street, Staten Island, NY**
Renovation and expansion of the current, 2,500 sf library, with a 10,500 sf addition. The new layout includes reading room areas for adults, young adults and children, a new story hour area adjacent to the children's reading room, a computer training area, and a new community room. New staff facilities include a new workroom, head librarian office, children's librarian office, and a staff lounge.

**Virgin Atlantic Clubhouse at JFK – Jamaica, NY**
The Virgin Atlantic lounge is a modern take on 1960's air travel It incorporates a sinuous fin wall, intricate ceiling, and several raised platforms to divide the space into varying zones based on acoustic level and length of stay. GMS provided structural engineering design for the interior features and the support structures for new mechanical systems.

**Hanover Square Park Benches – New York, NY**
Forensic engineering investigation services for existing stone benches at Hanover Square Park in New York City. The purpose of the investigation was to determine the cause of failure of the benches and to propose a solution to address the issue. Our studies showed that the stone did not have the assumed strength, the stone benches were poorly detailed, and the bench foundations were improperly prepared, all factors contributing to the distress in the park. We recommended a geotechnical evaluation of the soil conditions to establish proper compaction criteria and an engineered design of the footings.

**Aileron – Tipp City, OH**
A stainless-steel sculpture made of 1/8" thick plates, in the construction that resembles the wing of an airplane. The edges of the wing are rounded, and it has a sandblasted finish.

**Twister, Offshoot, and Torque – New York, NY**
GMS worked with sculptor Mark Gibian of Brooklyn to engineer and anchor these three galvanized steel sculptures. The artist provided a physical model which GMS digitized to create a 3-D workable rendering. The pieces are modeled after fish skeletons and ship ribs and are located in the Hudson River Park in Tribeca.

**STUDENT RESEARCH FELLOWSHIP** **Summer 2005/2006**
U.S. DEPARTMENT OF ENERGY, Global Change Education Program

**Baton Rouge, LA** **Summer 2006**
Researched with Dr. Robert Twilley at Louisiana State University within the Coastal Louisiana Ecosystem Assessment and restoration team. Developed a library of past coastal restoration projects in Louisiana including river diversions, levees, and marsh creation. Participated in team meetings on modeling land change and planning current restoration strategies. Assisted in question-and-answer sessions during the stakeholder meetings where the land change models were presented. Prepared a report for the Louisiana Department of Natural Resources (DNR) on scientist reviews of proposed projects. Conducted literature review for the National Oceanic and Atmospheric Association (NOAA) on mangrove production to be used in developing standards for engineers on successful mangrove restoration.

**Blue River, OR** **Summer 2005**
Collaborated with Dr. Barbara Bond, Professor of Forest Physiology at Oregon State University. Conducted measurements on forest carbon sequestration for the research of two doctoral students. Developed and managed an experiment using electromagnetic waves to measure soil moisture depletion in the Cascades.

**DARE TO SOAR PROGRAM** **2003 to 2007**
SITE COORDINATOR, TUTOR, AND MENTOR

Coordinate tutors, curriculum, and transportation for after-school tutoring at a homeless shelter managed by the community Action Agency of Delaware County (CAADC) in Chester, PA. Serve as a mentor in a Saturday mentorship program for local youth. Mentoring involvement is on-going.

**PRESENTATIONS, PUBLICATIONS AND PAPERS**

"Evaluation and Performance of Taiwan Housing and Schools in the Kaohsiung/ Meinong Earthquake", Ramon Gilsanz, Cathy Huang, Jessica Mandrick, Joe Mugford, Shyh-Jiann Hwang, Tsung-Chih Chiou, Mehmet Celebi. ATC 16th US-Japan-New Zealand Workshop on the Improvement of Structural Engineering and Resiliency June 2016.

"Learning from Disasters" Jessica Mandrick. *STRUCTURE® Magazine* Nov 2016: p.74

"Challenges Facing Young Structural Engineers" Jessica Mandrick and Jason McCormick. *STRUCTURE® Magazine* Nov 2014: p.54-56

**"**More Floors – Strategies for Vertical Additions on Existing Buildings", by Jessica Mandrick, P.E., presented at 2014 ASCE Metropolitan Section Structures Group Spring Lecture Series, New York, NY, May 20, 2014.

"Learning from the Recent Taiwan Meinong Earthquake", Ramon Gilsanz, Cathy Huang, Jessica Mandrick, Joe Mugford, Mehmet Celebi, and Sheng-Jhih Jhuang. 2016 SEAoC Convention.

**"**Addressing Challenges Facing Young Professionals within Structural Engineering**"** by Jessica Mandrick, Jason McCormick, Devon Lumbard, Dirk Kestner, Abbie Liel, presented at 2013 Structures Congress in Pittsburgh, May 2013.

"Discovering the Sculptor's Social Responsibility to Society", Panel Session at the 23rd International Sculpture Conference, Art Institute of Chicago, October 2012.

"Hurricane Sandy – October 29, 2012. An Urban Flooding Study", Coulbourne, W. L.; Cohen, J.; Arbitrio, V.; McMillan, W.; Frank, S.; Mandrick, J.; Gallego, A., ASCE.

"How the Future of Structural Engineering Sees the Future of Structural Engineering" by Jessica Mandrick, Bob Pekelnicky, Jennifer Rice, Dirk Kestner, Troy Morgan, Donna Friis, Larry Fahnestock, presented at Structures Congress in Las Vegas, April 2011.