

<u>EDUCATION</u>	NORTHWESTERN UNIVERSITY Master of Science in Civil Engineering	Evanston, Illinois 1978
	NORTHWESTERN UNIVERSITY Bachelor of Science in Engineering	Evanston, Illinois 1976
<u>LICENSES</u>	Registered Professional Engineer in Colorado, Connecticut, Delaware, Florida, Georgia, Maryland, Missouri, Nevada, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Washington, Washington DC, West Virginia, and Wisconsin. Certification through the Structural Engineering Certification Board	
<u>PROFESSIONAL ASSOCIATIONS</u>	Member, American Concrete Institute (ACI) Member, American Institute of Steel Construction (AISC) Member, Structural Engineers Association of New York (SEAoNY) Member, International Association for Bridge and Structural Engineering (IABSE)	
<u>EXPERIENCE</u>	GILSANZ MURRAY STEFICEK PARTNER	January 1991 to Present
	68 / 74 Trinity Place – New York, NY New 400 foot tall, 325,000 sf mixed-use building, with two basements, 32 floors plus mechanical and penthouse levels with a bridge to the church yard.	
	Virgin Hotel - Broadway at 29th to 30th Streets – New York, NY The new US flagship Virgin Hotel is planned to be 440,000 sf over 38 stories providing 460 rooms. The five-story podium and lower levels will house conference space, hotel amenities and 80,000 sf of retail area, with two large terraces on the third floor. This project will occupy the full block between 29 th and 30 th Streets along Broadway in NoMad (north of Madison Square), Manhattan. Currently in construction, the project is adjacent to the subway lines running along Broadway, so approval of the MTA Office of Outside Services will be required.	
	109-117 East 79th Street – New York, NY GMS is serving as the structural engineer for a new ground up, 19-story residential building in the Upper East Side of Manhattan. The project site combines two lots on the north side of East 79 th between Park and Lexington Avenue. The building will include a cellar level with mechanical space, amenity space, and luxury condominium units, totaling approximately 135,000 sf.	
	1100 Avenue of the Americas – New York, NY The repositioning of 1100 AoA will include relocating the lobby to the middle of the building requiring the removal of a line of columns to create a passage through from south to the north and will require transfer girders and new columns to carry the gravity load down to the foundation. Removing the floor above the future lobby will create a double-height space. A new lateral load resisting system, new mechanical and electrical systems, as well as new energy-efficient curtainwall will replace existing systems which	

were last updated in 1984. The building was originally constructed in 1906 and is adjacent to subway tunnels on the south and west sides of the site.

666 Fifth Avenue – New York, NY

Repositioning and renovation of the 40-story tower approximately 1,500,000 sf. The building was built in 1957 and was partly renovated in 1999. The existing retail will remain in place and no work on the exterior or interior are envisioned in those areas.

New Jersey Electronics Headquarters – Englewood Cliffs, NJ

Structural engineering services for a new 500,000 sf class-A office building with 15,000 sf data center, auditorium for 400 employees, full cafeteria, fitness facility and 1,500 parking spaces. The project received USGBC NJ's 2015 Top Honoree award recognizing "outstanding achievement and best practices in green building and sustainability." The project aims to achieve LEED™-CI Gold Certification.

Center for Development Economics – Williams College, Williamstown, MA

GMS provided structural engineering services for a new timber framed, two-story residence hall which houses 30 individual master's degree candidates. The new Hall is adjacent to historic St. Anthony Hall, and is the first Net Zero Energy building on the Williams campus.

RH 9-19 Ninth Avenue – New York, NY

The existing two-story structure in New York City's historic Meatpacking District retained its landmarked façade and was transformed into a four and a half-story modern structure. Two and a half stories were added over the existing structure and the cellar was excavated to add an additional 60,000 sf of space for retail and office use.

Salesforce, 3 Bryant Park (fka 1095 Avenue of the Americas) – New York, NY

GMS provided structural engineering services for the fit-out of Salesforce offices on the 1st, 16th, 17th, 18th to 20th, 23rd and 41st floor and creation of a dedicated entry lobby and canopy for Salesforce employees.

5 Franklin Place / 371 Broadway – New York, NY

GMS provided structural engineering services for a new 19-story building with approximately 155,000 sf of gross floor area. This residential building contains roughly 52 condominium units, ground floor retail space and a cellar parking facility. The cast-in-place concrete flat slab structure is founded on micro piles, cantilevers eight feet over the building to the north and includes a rooftop pool.

205 Montague Street – Brooklyn, NY

GMS is providing structural engineering for this new 500 foot tall, 42-story, concrete residential tower with approximately 330,000 sf and one cellar level. We are also providing the support of excavation, as well as pre-construction surveys, vibration monitoring, and MTA drawings submission due to the projects proximity to the 2, 3, and R subway lines. Prior to the new residential tower project, we provided structural design through design development and NYC TA approval for adding 10 new stories to the existing six-story structure.

27 East 4th Street – New York, NY

A new nine-story boutique hotel next door to the historic Merchant's House Museum in the east village. While the foundation was constrained by adjacent buildings, all the exterior columns were transferred at the 2nd floor to allow for increased floor area at the upper levels.

Nike at 529 Broadway – New York, NY

The existing two-story landmarked building will be transformed into a six-story retail and office space, on the corner of Broadway and Spring Street. The complete rehabilitation will strip the building to the foundation walls. The total framed area of the development will be approximately 61,400 sf.

285 Madison Avenue – New York, NY

Since 2012 GMS has provided structural engineering services for the owner/landlord to reposition this historic, pre-war, office building and create high-quality contemporary office space with a new distinctive entry and strong building identity. Our work in the lobby included column removal, extending elevator shafts and new rooftop amenities. GMS has also engineered multiple commercial interiors projects, including tenant fit-out, new mechanical systems and infrastructure, upgrades to common areas and reconfigured cores.

QLIC aka Queens Bridge Plaza North – Long Island City, NY

GMS is providing structural engineering, building envelope and special inspection services for this new, 319,000 sf, 21-story high residential building. The building is cast-in-place concrete flat plate construction on a combination of spread footings piles and mat foundations.

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.

Renaissance Hotel – 218 West 35th Street, New York, NY

This new hotel near Macy's is 38 stories, plus the roof. Approximately 200,000 sf of concrete flat-plate construction built on a mat foundation. GMS served as the Engineer of Record and as the Special Inspector for concrete construction and steel erection, bolting and welding.

New World Symphony – Miami Beach, FL

The \$110 million state-of-the-art facility used for educational activities, musical and related cultural events, rehearsals, Internet transmissions, and broadcasts. The space features an acoustic music space with 700 seats. The acoustic room is equipped as an Internet2 classroom and the transmission facility broadcasts concerts and other cultural performances. Construction documents include a 3D computer model (BIM).

399 Knickerbocker Avenue – Brooklyn, NY

Structural engineering for the 36,000 sf expansion of this commercial property. The adjoining 5 lots were combined into a single commercial property.

Avon New York HQ – 777 Third Avenue, New York, NY

This office renovation, of approximately 275,000 sf (floors 2 – 12), includes private offices, open work areas, conference rooms, a divisible multi-purpose meeting room, breakout rooms, pantries, typical support spaces, including high density file rooms, a photography and jewelry making studio and new enclosed convenience stairs.

510 Madison Avenue – New York, NY

Provided structural engineering services for a new 30-story, 300,000 sf office building with ground level retail, health club and other amenities. The project is pursuing LEED Gold Certification.

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 (2) theaters, public spaces and some offices, totaling approximately 15,000 gsf.

New York Presbyterian Hospital – New York, NY

GMS provided Structural Engineering services for the creation of Cath Lab K, in the Heart Hospital at New York Presbyterian.

PNC Bank Branches – Various Locations

Since 2004, GMS has been providing structural engineering services for the Bank Branch Roll-out in NY, NJ, VA, DC, MD, DE, OH, KY, PA, FL, MI, IL and WI, adapting regional prototype designs for new PNC Bank Branches. To date, we have designed over 200 high performance bank branches, each about 5,000 sf. All branches of PNC Banks are LEED™ Certified.

1095 Avenue of the Americas – New York, NY

GMS engineered the reconstruction of the existing annex, enlarging the existing plaza, enclosing the existing MTA entry and relocating the entry to the east within the 1095 tower. These building projects are ready for leasing and the plaza reconstruction was completed in 2010.

Lenox Hill Hospital – New York, NY

\$100 million addition and renovation of existing hospital facilities.

NY Presbyterian Westchester Division, Institute for Brain Development, Rogers Building, and Psychiatric Center – White Plains, NY

GMS provided structural engineering for the interior renovations within the historic Rogers Building and within the Psychiatric Center.

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).

40 Mercer – 40 Mercer Street, New York, NY

Partner in charge for a new luxury 13-story, 156,000 sf cast-in-place residential condominium building including 10,500 sf of retail and below-grade parking. One of the challenges includes coordination with the MTA since the project site is adjacent to a subway line. Flat plate slab with shear walls.

City Club Hotel – 55 West 44th Street, New York, NY

GMS served as the structural engineer for the gut renovation and restoration of this former private club into a hotel. The design in 1999 included the reinforcing of the existing columns, new columns, new foundations and a new lateral load resisting system to accommodate the future addition of up to 10 new floors.

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. The project site is within a FEMA A zone with accessory structures in FEMA V zones. The design included flood damage prevention features.

330 Madison Avenue – New York, NY

In addition to the overcladding program, which was performed while the building was completely occupied, GMS provided structural consulting and special inspection services for other projects associated with the building redevelopment, including new window washing rig, new generator, upgraded MEP systems, new lobby, a structural study of building setback roofs to assess the basic design capacity and tenant renovations at the office and ground floor retail areas.

Novartis Building 431 – East Hanover, NJ

Structural design services for the core and shell of a new 135,000 sf five-story, high performance office building with a 700-car parking garage.

One Jackson Square – 122 Greenwich Avenue, New York, NY

Structural design services for a new 11-story, 60,000 sf luxury residential building that also includes 8,000 sf of retail space all built atop a subway station. GMS was also retained to assist in detailing this unique undulating curtain wall.

Greenburgh Public Library – Greenburgh, NY

The project is the expansion and renovation of the Greenburgh Library. The new addition and the existing portion to be renovated are each approximately 23,000 sf. The total cost of the project is approximately \$16,000,000.

PS 59 at MEETH Annex – New York, NY

This 1920's era, former nurse's dormitory was converted to a K to 5 school, with new elevators and stairs, upgraded floor capacity in the corridors and integrated new building systems. By replacing the roof at a higher elevation with long span girders to support roof top equipment and a play space, and reinforcing the floor, we were able to accommodate a new gymnasium on the 6th floor.

Ossining Public Library – Ossining, NY

The project is a new 40,125 sf library, with an alternate mezzanine, approximately 4,500 sf, located on approximately 2 acres owned by the library. The building will be steel framed with composite concrete slabs and brick and 6" block cavity wall. The library will be required to demolish the existing building and properly phase the construction for continuous operation. The library is registered with the US Green Building Council as LEED™ certified.

371 Broadway – New York, NY

Renovation with a new 18-story, 130,000 sf, luxury residence which cantilevers north over the existing commercial building.

37 Arts – Baryshnikov Arts Center 450 West 37th Street, New York, NY

Structural engineering services for a new six-story, 150' high concrete building. Project design features include three separate theaters that can seat 499, 399 and 290 patrons, concrete staircases that appear suspended in air and clear span balconies of exposed concrete. The Baryshnikov Center for Dance occupies three floors of office and rehearsal space.

General Motors Building – New York, NY

GMS provides consulting services to the Owner as the building's structural engineer and for the re-cladding of the first two stories of this 1960's vintage building in Midtown Manhattan. The original cladding was totally removed and new cladding was installed while most of the tenant spaces were occupied. GMS provided roofing and waterproofing services at the roof and the newly re-constructed plaza.

Briarcliff High School/Middle School – Briarcliff Manor, NY

New 50,000 sf, two-story addition adjacent to the existing school, including classrooms, labs, a library, a cafeteria with kitchen and a modification to the existing gymnasium. Also, a new one-story addition to the existing cafeteria and a new one-story lobby entrance.

SICIS - 470 Broome Street – New York, NY

Renovation of the cellar, ground and second levels of 470 Broome Street for retail use. Design of interior ramps and framing for new glass tread stair and elevator from cellar to second floor.

610 Broadway – New York, NY

110,000 sf, seven-story office building with an insulated clear glass curtain wall and 80 foot high interior atrium.

Pace University Judicial Institute – White Plains, NY

This three level, 30,000 sf facility building houses the first national judicial training and research center built by and for the New York State Unified Court Systems. The Institute includes a 160 seat auditorium, a multi-use lecture hall, three classrooms, two conference rooms, a library and dining facility. The project included a two-story precast concrete parking structure designed to support 2 additional stories in the future. Built into the side of a hill, cars can enter from several at-grade levels.

The Westchester Country Club – Rye, NY

GMS investigated structural, façade and roof deterioration at the Hotel, Sports Facility, Administration Building, and Golf Cart “Garage” of this prestigious Country Club. We provided the Owner with a realistic picture of the existing deterioration, to forecast and prioritize repairs, and estimate restoration costs.

W Hotel, 541 Lexington Avenue – New York, NY

90,000 sf addition and renovation of existing 17-story hotel in midtown Manhattan. Addition includes two additional floors at main hotel structure and six floors on top of existing four-story annex, with a total work area of 400,000 sf.

Travelers Group Executive Planning Center – Armonk, NY

Multi-building complex consisting of guest facilities, a recreational building and a conference center.

300 Madison Avenue – New York, NY

1.2 million sf office building on the southwest corner of 42nd Street and Madison Avenue in New York City. The major objectives of the design were keeping to a schedule and budget, while delivering a serviceable and strong structure to address the post 9/11 safety concerns of the tenant. The atypical use of 65 ksi steel and the deliberate design served to attain these objectives.

The House of Bumble – New York, NY

Partner in charge for the structural design of a 52,500 sf salon and university for the Bumble & Bumble Salon in the Meatpacking District in New York City.

Hospital for Special Surgery – New York, NY

Renovation of existing three-story building used for various medical uses. Existing roof converted into concrete slab floor capable of supporting 100 psf LL and new framing for new floor able to support new dunnage and snow and self-weight loads.

Princeton University Tennis Center – Princeton, NJ

Relocation of tennis courts, field house and related facilities.

Huntington Library – Huntington, NY

Three-story, 40,000 sf renovation and expansion of existing library, including basement and addition of new floor.

11 East 51st Street – New York, NY

Renovation of a Vanderbilt Mansion into New York City headquarters for Banco Mercantile Venezuela.

Long Island City Vivarium – Long Island City, NY

39-40 Crescent Street – Renovation of existing manufacturing building to support new Cooling Tower equipment

Suffolk County Community College – Brentwood, NY

250,000 sf Multi-Purpose Technology Community College Building including classrooms, offices, laboratories, a pool, exercise rooms, field house and other related activities.

Friends Academy Kumar-Wang Library & Technology Center – Locust Valley, NY

A 24,000 sf, three-story, state-of-the-art research facility housing the school's main library and a technology center for research and education.

Guggenheim Museum SoHo – New York, NY

30,000 sf renovation of existing landmark building into museum gallery, restaurant and office space.

Toys “R” Us – 1530 Broadway, New York, NY

Renovation of an existing building in Times Square into a retail store with four levels, totaling over 103,000 sf. Included among the store's features are a large atrium, a new glass curtain wall, and two suspended glass walkways.

Southwest Airlines Terminal – MacArthur Airport, Islip, NY

150,000 sf, two-story terminal building.

1540 Broadway – New York, NY

Interior renovation of 40-story office building to accommodate tenant fit-out requirements.

121 Reade Street – New York, NY

12-story, 140,000 sf residential building. Reinforced concrete, flat plate structure.

John Jay High School – Katonah, NY

A 90,000 sf building addition and alteration including classrooms, offices, laboratories, cafeteria and gymnasium. Also included is a campus linking passageway.

Dublin House – 534 Hudson Street, New York, NY

Six-story, 100,000 sf residential building. Reinforced concrete flat slab construction.

71 Broadway – New York, NY

22-story residential conversion.

Locust Hill Residence – New York, NY

20,000 sf assisted housing, constructed over one-story parking level.

Price Waterhouse – New York, NY

350,000 sf office renovation.

SKIDMORE, OWINGS & MERRILL
STRUCTURAL DEPARTMENT DIRECTOR/ASSOCIATE PARTNER

August 1978 to December 1990

Senior design engineer responsible for the management of the New York structural department. Responsible for the production of structural design documents for major building projects, including the formulation of building structural systems, production of working drawings and specifications. Involved in all phases of design and construction, from initial client contact through field observation.

The Presbyterian Hospital in the City – New York, NY

Multi-phase modernization at NYP-Columbia University teaching hospital in the late 1980's created the 839,000 sf, new 745-bed Milstein building with ancillary diagnostic and treatment areas, 22 new operating rooms, 48 radiology and imaging rooms, and 74 intensive care beds. This modernization project also included 497,000 sf of renovation and additions to existing buildings including an addition to expand diagnostic and treatment suites for Center for Women and Children (Presbyterian building); "Energy Court" gallery (which extended from the Broadway entry across to the Harkness Pavilion); interconnecting bridges tying the Harkness Pavilion to the William Black Building to the north and another over Fort Washington Avenue to the new Milstein hospital building and tunnels across adjacent streets; addition to the service building, portions of which have now been replaced by the Morgan Stanley Children's Hospital.

The Presbyterian Hospital/Allen Pavilion – New York, NY

This 300,000, four-story, 300 bed community hospital was built in 1988 on 4.5 acres at the northern end of Manhattan, along the bank of the Spuyten Duyvil Creek.

Tribeca Bridge – New York, NY

Preliminary design for a pedestrian bridge over the West Side Highway to connect Battery Park City to the World Trade Center, 1990.

One Broadway Place – New York, NY

Mixed-use, 39-story tower constructed over four stories of retail, one-story containing four theaters, and parking at the lowest level - 850,000 sf of office space; retail and theater space - 110,000 sf, 1990.

Citicorp at Court Square – Long Island City, Queens, NY

Fifty-story office tower with corporate dining, retail space, and below-grade subway interconnection - 1,300,000 sf, 1989.

Brooklyn Main Post Office – Brooklyn, NY

Feasibility study and preliminary concept evaluation for conversion of the existing landmark postal facility structure into alternative uses. Studies were done to convert the structure for use by the U.S. District and Circuit Courts and into a hotel facility.

225 High Ridge Road – Stamford, CT

Two three-story office structures over one level of below grade parking, 1990.

1301 Avenue of the Americas – New York, NY

Renovation and upgrade of the plaza, lobby and facade of an existing office building.

64-74 Franklin Street – Boston, MA

Rehabilitation and expansion of two historic buildings into office and retail space, 100,000 sf 1989.

Republic Plaza – Denver, CO

56-story office tower and retail complex - 1,400,000 sf 1983.

Boston Crossing – Boston, MA

Feasibility and schematic design study for a mixed-use urban center including 2 office towers, retail and parking.

Atlantic Terminal – Brooklyn, NY

Feasibility study for the construction of retail and office buildings above an existing, operating train stations and tracks.

Louisville Galleria – Louisville, CO

Multi-use urban complex including: two office towers - 400,000 sf; retail - 250,000 sf; renovation of three historical structures; garden, fountains, and pedestrian malls - total 1,050,000 sf, 1982.

Phoenix Center – Phoenix, AZ

Twin 30-story concrete office towers with adjacent precast concrete parking structure, 600,000 sf, 1986.

PRESENTATIONS Lateral Load Resisting Facades, M. Lopez, C. Bai, J. Blanchfield, D. Kazibwe, R.Gilsanz,
PUBLICATIONS P. Murray, IASS 60th Anniversary Symposium Form and Force 2019, Barcelona, Spain,
AND JURIES 7 October 2019.

“Thinking Outside the Cube”, Joe Mugford, and Philip Murray, *Modern Steel Construction*, September 2016.

Challenges and Complexity of Air-Rights Structures - Case Study: One Jackson Square, by Karl Rubenacker and Philip Murray, 2015 Structures Congress, Portland, OR, April 24, 2015

Design of a High-Rise Steel Building to Resist Disproportionate Collapse, R. Gilsanz, E. Kim, P. Murray, K. Rubenacker, 37th IABSE International Symposium, Madrid, Spain, 3-5 September 2014

Design of a High-Rise Steel Building to Resist Disproportionate Collapse, by Karl

Rubenacker and Philip Murray, 2014 Structures Congress, Boston, Massachusetts, April 3, 2014

Dynamic Properties of Residential Structures Subjected to Blasting Vibrations, by Charles H. Dowding, Dimitrios K. Atmatzidis, and Philip D. Murray, Journal of the Structural Division - American Society of Civil Engineers, July, 1981