



## Owais Ahmad, P.E., Ph.D., LEED-AP

Mr. Ahmad has over seventeen years of experience in the design of high-rise residential and office buildings and other types of sophisticated structures, as well as in the renovation of existing buildings. Mr. Ahmad has also provided calculations, analysis and design for major steel framing and building elements, utilizing structural software and graphic applications. He has also taught courses such as Advanced Structural Analysis, Matrix Analysis of Framed Structures, Strength of Materials, Concrete Technology and Steel Design at Stevens Institute of Technology in Hoboken, New Jersey.

### Education

Ph.D., Structural Engineering, Stevens Institute of Technology, Hoboken, New Jersey, USA.

Dissertation: Nonlinear Structural Response in Vortex Induced Vibration

Master of Engineering, Earthquake Engineering, I.I.T., Roorkee, India

Thesis: Ambient Vibration Testing of Structures

Bachelor of Engineering, Civil Engineering, A.M.U., Aligarh, India

Thesis: Soil Investigation and Design of a Multistoried Residential Complex

### Licenses, Registrations and Accreditations

Registered Professional Engineer, State of NY, NJ; (P.E., S.E-I), State of Minnesota

LEED Accredited Professional (LEED-AP), State of New Jersey

### Professional Memberships and Affiliations

American Society of Civil Engineers (ASCE), member

### Publications

*Ambient Vibration Testing of Three-Storey Building of Department of Earthquake Engineering, Roorkee.*  
Proceedings of Tenth Symposium on Earthquake Engineering, Roorkee, India. Pp. 989-994.

*Isolation of Multi-Storey Building against Ground Transmitted Vibrations.*

Proceedings of International Conference on New Challenges for Civil Engineers of Developing Countries in the 21<sup>st</sup> Century (nccdc-96), New Delhi, India. Pp. 283-286.

*Determination of Rheological Constants to Predict the Deformation of Laterally Loaded Short Pile in Clay.*  
Proceedings of Eleventh Symposium on Earthquake Engineering, Roorkee, India. Pp. 361-369.

*Vortex-Induced Vibration Structural Response under Parametric Excitation.*

IUTAM Symposium on Integrated Modeling of Fully Coupled Fluid-Structure Interaction Using Analysis, Computations and Experiments. Rutgers University, New Brunswick, NJ, USA.

*Nonlinear Interaction in Vortex-induced Structural Vibrations.*

International Conference on Modeling, Simulation and Optimization for Design of Multi-disciplinary Engineering Systems. Goa, India.

*Structural Response in Vortex-induced Vibration.*

Tenth Conference on "Nonlinear Vibrations, Stability and Dynamics of Structures". Blacksburg, VA, USA.

### Academic Experience

Adjunct Faculty, Department of Civil Engineering, Stevens Institute of Technology, Hoboken, NJ, USA

## Awards

Distinguished Teaching Assistant Award, 2003, Stevens Institute of Technology, Hoboken, NJ, USA

## Representative Project Experience

### Commercial Facilities



**Bronx Terminal Market**, Bronx, New York. A new mixed-use destination retail center in the Bronx. The site is near the Harlem River and was historically home to numerous heavy warehouse and distribution facilities. The new 2,000,000 SF complex will include 'big box' retailers, pedestrian plazas and a multi-level parking structure.

- Designed the foundation and steel framing using Ram Steel

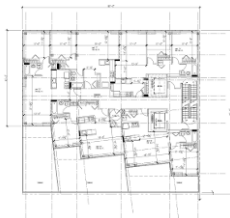


**Gulshan Centre Point**, Gulshan, Dhaka, Bangladesh. This 25-story commercial tower with five Basement levels is to consist of two wings with a common core at the junction point and stair cores at the ends of the wings. The wings will lean toward each other, and the design also incorporates slopes and setbacks at a number of locations, resulting in a few 2-story high columns at the Ground Floor level. The gross built-up building area will be approximately 100,000 square feet. In addition to parking, the Basement levels will contain an underground water reservoir, an electrical substation, a generator room and a chiller room. The Ground Floor will provide spaces for a super shop, a bank and the Main Lobby, etc. Functions such as a Food Court, a Conference Centre and a Mosque, etc. are intended to occupy the First Floor, while the Second Floor will contain a swimming pool, gymnasium, restaurant, etc. The Third Floor might contain a club, a library and terraces, etc. The other floors are to be typical office floors.

### Residential Projects



**The Veneto**, 250 East 53<sup>rd</sup> Street, New York, New York. Designed structural framing for this new high-rise, luxury residential building in Midtown Manhattan. The building has two setbacks and is situated above a subway easement and thus requires load transfer at three floors.



**New Residential Building**, 2015 Fifth Avenue, New York, New York. This new residential building is situated at the corner of Fifth Avenue and East 125<sup>th</sup> Street in Manhattan. The lot has an area of 5,913 square feet. The building rises 7 floors and has one Cellar level, accommodating approximately 18,000 square feet of Retail space on three levels, approximately 2,000 square feet of Community Facilities, 4,000 square feet of Office Space and 24,000 square feet of market-rate housing above. The total gross floor area, including below grade space, is estimated at 48,500 square feet, supplemented by an open rear yard and roof terraces at several levels.



**Numeroff Residence Sheeting & Shoring**, 462 West 23rd Street, New York, New York. ADG provided design and Contract Administration services for an extensive renovation to the Numeroff Residence on West 23rd Street in Manhattan. The project scope included construction of Cellar and Basement Additions at the rear of the building below the rear yard and construction of a new shaft and installation of an elevator within the building to serve all levels. Further work included the construction of a Penthouse over the roof at the middle third of the building, removal and reconstruction of the entire roof of the building at a depressed level to facilitate the creation of an occupiable roof and creation of a two-story high interior space at the rear of the building.



**Richardson Lofts**, 50-60 Columbia Street, Newark, New Jersey The Richardson Lofts complex is an adaptive-reuse affordable housing project is located in Newark, NJ. An existing six-story steel-framed manufacturing building on the site, which has one Basement Level, provides approximately 68,000 square feet of space. Three new residential floors added above the existing roof result in a floor area increase of approximately 30,000 square feet.



**River East Condominium Towers**, Long Island City, New York Situated on a desirable site facing the East River in New York City, the River East Development comprises six residential buildings flanking the existing 44<sup>th</sup> Avenue thoroughfare. The visual highlights of the project are the two twenty-eight story towers located nearest the river's edge at the west side of the site. Four adjoining eight-story buildings bring the total floor area of the massive project to 1.4 million square feet. ADG provided full Structural Design and Engineering Services for the project.



**The Venetian Plaza**, Brooklyn, New York, 431 Avenue P, Brooklyn, New York. This project consists of 6 stories plus 2 cellars. The total area is approximately 150,000 sq. ft. The Venetian Plaza is located at 431 Avenue P in the Borough of Brooklyn, NY. It is a high-end luxury residential condominium development with a total area is approximately 150,000 square feet. It comprises six stories above grade and two Cellar levels.

- Designed the foundation and steel framing using Ram Steel

**241-243 Bowery**, New York, New York This project consists of the design of a new 14-story building containing a total of 52,738 sq. ft. of space (including 28,746 sq. ft. of residential and 23,992 sq. ft. of commercial space). The building has a footprint of 76 feet by 120 feet and has 12 floors above grade and two below grade including underground parking. Project responsibilities included modeling and design of concrete structural members of the building.

## Hotels



**NO-HOTEL**, 25 Great Jones Street, New York, New York . The project consists of two separate new additions to an existing building. One new building will have ten double-height floors with an intermediate mezzanine level at each floor. It will have a gross area of 16,500 square feet. The other building also has ten floors and a gross area of approximately 16,500 square feet.



**Soho Nouveau Hotel**, 96 Varick Street, New York, New York. A new hotel building in downtown Manhattan. The site is located at the corner of Varick Street and Broome Street. The hotel has 25 floors and one Cellar level. The building has a deep setback at the 2<sup>nd</sup> Floor level. The Ground Floor houses the Lobby and a public Arcade. Meeting Rooms and Administrative Offices are located at the Cellar level. Portions of the Cellar are used for parking and mechanical services. Mechanical bulkheads are provided at the roof level. The total gross area of the building is approximately 122,000 square feet.



**Crescent Street Hotel**, 42-31 Crescent Street, Queens, New York. A new development in the Borough of Queens. The 12-story Hotel will have a full Cellar level. The design of the project houses all of the required hospitality functions in a gross floor area of 91,000 square feet.



**Marriot Hotel Beach Resort**, Ajman, UAE Marriot's hotel and beach resort complex in the Emirate of Ajman combines contemporary planning and construction technologies with numerous architectural references to the project's location and its rich cultural heritage. The development comprises 18-story hotel buildings clustered on a common Podium structure. The approximate total gross area of the complex is 500,000 square feet.



**New Hotel/Condominium Tower**, 241 Fifth Avenue, New York, New York. This project comprises a new mixed-use 19-story building on a 100' deep by 51.5' wide Fifth Avenue site in New York City. The Hotel occupies the lower 14 floors of the building while residential condominium units are on the top 5 levels. Setbacks occur at the rear of the 2<sup>nd</sup> Floor and at the front of the 14<sup>th</sup> Floor. The Ground Floor houses Lobby and Restaurant functions. The Cellar accommodates kitchen, housekeeping and mechanical functions. The total gross floor area of the building is approximately 89,000 square feet.

## Educational Projects



**Columbia University OPH Chiller Plant**, New York, New York ADG contributed to many aspects of a major reconfiguration and upgrade program for a complex multi-functional mechanical plant for the University's New York City campus. Key features of the project include the design of new foundation systems for massive pieces of equipment within the shells of existing buildings, the design of an entirely new interior mezzanine structure and the design of pipe supports and hoist beams to serve the new equipment. Three separate buildings were integrated into the new facility, and ADG designed a variety of large dunnage structures as well as alterations to the structural framing of the existing buildings.





**PS-111Q, Jacob Blackwell School Boiler Replacement**, 37-15 13th Street, Long Island City, NY - Alterations to Public School PS111Q for a boiler replacement project involving the removal of two existing boilers and associated equipment from the Cellar of the building and replacement with new boilers. Axis Design Group International, LLC. designed alterations to the building for the creation of an access opening through the foundation wall to allow installation of new boilers in the building, evaluated alternate means for the remediation of groundwater leakage into the boiler pit, performed a site visit to examine the conditions within the building and reviewed the original Structural Design Drawings for the building and the Soil Boring Logs for the building. In addition, ADG prepared a report of recommendations and developed Design Sketches for inclusion in the preliminary review report.



**PS-50R, Frank Hankinson School**, 200 Adelaide Avenue, Staten Island, New York. This project entailed alterations to Public School PS-50R for a boiler replacement project. Project plans involved the removal of existing boilers and associated equipment from the Cellar of the building and replacement with new boilers. Axis Design Group International, LLC. provided Structural Engineering Services for the preliminary phase of the project. ADG's work included the design of alterations to the building for the creation of an access opening through the foundation wall to allow installation of new boilers in the building, the design of catwalks for access to the top of the new boilers, an evaluation of the structural impact of the removal of an existing incinerator from the building and an evaluation of alternate means for the remediation of groundwater leakage into the Cellar. In carrying out these assignments, the ADG team employed sophisticated structural analysis and modeling software to: Perform a site visit to examine the conditions within the building, review the original Structural Design Drawings for the building and the Soil Boring Logs for the building, develop preliminary designs for the creation of an opening in the foundation wall and for the remediation of water leakage, prepare a Report describing recommendations and prepare Design Sketches for inclusion in the preliminary Report.

### Renovation/Alteration Projects



**Reconstruction of the Historic Iron Market**, Port-au-Prince, Haiti. In the aftermath of the devastating earthquake that struck Haiti in January of 2010, Structural Engineers from Axis Design Group International, LLC (ADG) were summoned to the island to undertake condition assessments of telecommunications buildings and structures on behalf of a commercial Client. In short order, ADG received a follow-on assignment; a fast-paced reconstruction of one of the city's iconic landmarks. ADG determined that it would be possible to preserve much of the South Market's structure, as its iron frame had generally endured the earthquake well. At the direction of the Client, ADG designed IBC 2006 compliant seismic/hurricane resistance upgrades. Specific measures included the addition of diagonal rod bracing.

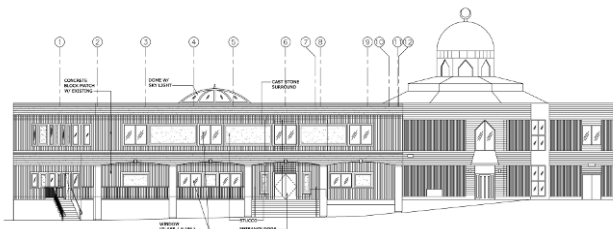


**Column Removals**, 200 Park Avenue, New York, New York. Modifications to the 58<sup>th</sup> Floor of the existing building required the removal of existing columns from within the space. Two columns, known as TUU-28B and TUU-28A, were under consideration for this action. Axis Design Group International, LLC evaluated the structural impacts of the removal of either of these columns and prepared a Conceptual Study. ADG worked with the Architects and evaluated the impacts of expanding the glazed portions of the exterior wall at the 58<sup>th</sup> floor.

Governmental/Institutional Projects



**Shahbaz Air Force Base**, Jacobabad, Pakistan. The Shahbaz Air Base Project encompassed the construction of new facilities as well as the design of improvements for certain existing facilities. The Base will cover an area of approximately 607.20 hectares (1,500 acres), including both air base facilities and associated residential structures. There are more than thirty new maintenance facilities to be constructed, sixty new administrative structures and twenty different types of residential buildings. The project includes above-ground structures as well as below-ground tunnel/shelter type facilities.



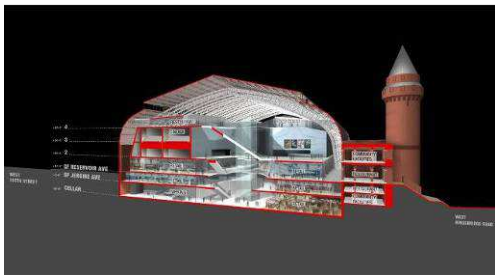
**Expansion of the Masjid Dar-Ul-Islah Mosque**, 320 Fabry Terrace, Teaneck, New Jersey. Structural Design and Engineering Services for the expansion this facility followed an Architectural design that called for a two-story structure east of the existing mosque building. The total covered area of the new construction was 16,576 square feet, used for classrooms and multi-purpose spaces.



**Alterations to the Peter W. Rodino, Jr. Federal Office Building**, Newark, New Jersey. This existing Government facility has been a significant presence in downtown Newark with a height of 220 feet, sixteen 16 stories and a floor area of 467,000 square feet. The project focused on the design of building façade reinforcement, as the General Services Administration wished to upgrade the building and strengthen the façade to resist blast loads that would be imposed in case of an explosion on the perimeter of the building.



**Investigative Engineering Services**, 75 Clinton Street, Brooklyn, New York. ADG was retained to provide Underpinning and Sheeting & Shoring Drawings for a new project in Brooklyn. The project was designed to include one Basement level. An existing MTA tunnel is situated along the north side of the property. New mini caissons and grade beams were to be constructed along the MTA tunnel, while existing foundation walls located along the property line of the lot would remain. Depths of the adjacent building foundations were not known. ADG completed design of the Sheeting and Shoring and Underpinning plans and sections and provided underpinning details for adjacent buildings where the new grade beam would be lower.



**Kingsbridge Armory Adaptive Reuse**, Kingsbridge Road, Bronx, New York. A century-old Armory in New York City's northernmost borough was found to be the perfect candidate for an exciting conversion to retail and entertainment uses. Axis Design Group International, LLC performed extensive investigation and due diligence work during the initial stages of the design effort. Research revealed that a number of innovative and original structural steel fabrication and erection techniques had been employed by the original designers in the early twentieth century. The structure's multiple designations as an Historic Landmark mandated that proper strategies be developed to safeguard and preserve certain elements. The development program entailed the insertion of multiple new levels within the huge open space comprising the original military Drill Hall. ADG adopted a variety of material selections and structural systems to assist in breathing new life into the formerly derelict monument.

## Condition Survey, Peer Review and Value Engineering Projects



**Echelon Place, Las Vegas, Nevada** Echelon Place Las Vegas is a \$4 billion Mixed-Use Resort on the 63 acres of land formerly occupied by the Stardust Hotel. The mega-resort includes 1 million square feet of Convention and Meeting space, 5,300 Hotel rooms, a 140,000 square foot Casino and 350,000 square feet of Retail stores. A period of four years was required to develop this massive real estate endeavor. ADG provided Peer Review and Value Engineering services for this project, identifying opportunities multi-million dollars savings in construction cost. Our review skills have been applied to foundation systems as well as structural steel and reinforced concrete structures.



**Structural Investigation at the Rear of the Building, 163 West 48<sup>th</sup> Street, New York, New York.** A long-time Client that maintains an existing commercial building on West 48<sup>th</sup> Street experienced deterioration of the rear wall of the structure. The vertical face of the wall has bulged and has been short by a number of years. ADG provided Structural Engineering services to evaluate the construction of the building and to prepare a report of our findings.

**Due Diligence Survey & Structural Evaluation, 499 Broadway, New York, New York.** ADG conducted a limited structural condition survey of this retail structure. The purpose of this survey was to provide a structural evaluation regarding the feasibility of removing a section of Ground Floor, approximately 53.0' by 18.6' to create a double-height space at the Cellar level. These tasks required a careful visual tour of the structure, allowing survey information and data to be obtained by touring the Cellar level. The weather at the time of the field survey was pleasant with temperatures in the mid-fifties.



**Lanco Hills I.T. Tower 9, Hyderabad, India** ADG performed exhaustive Design Review and Value Engineering studies for the developers of the massive Lanco Hills project in India. ADG demonstrated that through the use of a more sophisticated Structural Design and Engineering approach, and by incorporating various adjustments to the architectural design, a more efficient structure would result and that significant savings in construction materials and labor costs would be achieved. Reductions in the overall duration of the Construction Schedule were also proven to be possible by ADG's efforts.



**Structural Feasibility Study For Addition Of Floors To Existing Building, Eleventh Avenue, New York, New York.** The Potamkin Corporation wished to add one or more floors on top of their existing South Building at 706 Eleventh Avenue in Manhattan. Axis Design Group International, LLC performed a Structural Feasibility Study regarding the construction of additional floors above the building and prepared Schematic Structural Drawings to facilitate the preparation of an accurate structural cost estimate.



## Healthcare Facilities



**Renovations to the High Pressure Steam System at New York Presbyterian Hospital, 165<sup>th</sup> Street & Broadway, New York, New York.** Working at the 10-story 745-bed steel-framed hospital facility, ADG played an integral role in carrying out extensive renovation of the existing facilities. Structural Engineering Services provided for the project included evaluation of existing conditions as they pertained to pipe supports, design of pipe anchors, review of Submittals from the Contractor and support services associated with the re-support and re-anchoring of the pipes.

## Entertainment/Recreation Facilities



**Quinnipiac University Athletic Complex\*\***, Sherman Avenue, Hamden, Connecticut. Engineering work entailed the design of a new 141,000 square foot athletic facility housing basketball courts, an ice hockey arena and related support facilities.



**Hard Rock Hotel & Casino\*\***, Biloxi, Mississippi. A new project which included a new 11-story, 306 guest room luxury Hotel, 50,000 square feet of gaming space and a 1,600-car capacity parking structure.



**Harrah's Cherokee Casino & Hotel\*\***, Cherokee, North Carolina. Complete Structural Design and Engineering Services were provided for Harrah's expansive complex in North Carolina. Specific components of the project included:

- an 8-story, 2,300-car capacity Garage and a 6-story, 1,200-car capacity Garage
- a 532-key, 21-story Hotel
- 120,000 square feet of new gaming floor area
- a 3,000-seat Event Center

\*\* indicates Projects completed while working in a managerial capacity with another Design/Engineering firm.