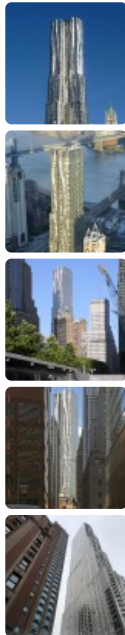


Eight Spruce Street



Click an image to view larger version.



Height: To Tip
271.6 m / 891 ft

Height:
Architectural
265.2 m / 870 ft
Height: Occupied
252.1 m / 827 ft



Floors Above Ground
76

Floors Below Ground
1

of Elevators
15

Top Elevator Speed
7.1 m/s

Tower GFA
92,903 m² / 1,000,000 ft²

of Apartments
903

of Parking Spaces
175

Facts

Official Name	Eight Spruce Street
Other Names	New York by Gehry at Eight Spruce Street, Beekman Tower, Beekman Place, The Beekman
Structure Type	Building
Status	COM
Country	United States
City	New York City
Street Address & Map	8 Spruce Street
Postal Code	10038
Building Function	residential
Structural Material	concrete
Proposed	2003
Construction Start	2006
Completion	2011
Official Website	New York by Gehry

Companies Involved

Owner/Developer	Forest City Ratner Companies
Architect	Gehry Partners
• Design	
Structural Engineer	WSP Cantor Seinuk
• Design	
MEP Engineer	Jaros, Baum & Bolles
• Design	
Main Contractor	Kreisler Borg Florman General Construction Company
Other Consultant	
• Façade	Permasteelisa Group
• Wind	RWDI
• (not specified)	thyssenkrupp

About Eight Spruce Street

Eight Spruce Street is located in a part of lower Manhattan with few other towers. It is close to City Hall and its adjacent park. The landmark Woolworth Building by Cass Gilbert and the Brooklyn Bridge are its closest neighbors. Its significant height make 8 Spruce Street a prominent addition to the New York City skyline and as the tallest all-residential building in North America adds a significant residential population to its neighborhood. In addition to its 900 residential units, the tower also houses a pre-kindergarten through eighth grade public school, and office space for the New York Downtown Hospital in its base.

The site sits between Spruce Street on the north and Beekman Street on the south, formerly a 100% impervious asphalt topped parking lot. The new project and site design minimizes the building footprint to enable 30% of the site to be developed as landscaped urban plazas which create through block pedestrian spaces on both the east and west sides of the building. These spaces contain outdoor amenities such as landscaping, water features and public seating areas. The West Plaza creates a landscaped setting for a porte cochere that gives car and pedestrian access to the residential lobby.

The development of the form began by using the classical proportions of New York City towers and the traditional setback rules which have created the tall wedding cake designs typical in the city. These guidelines created the initial massing of the building. Then the design developed to accommodate bay windows which the client requested in each unit. Rather than having the bay windows align vertically, they are shifted slightly from floor-to-floor and varied in size from unit-to-unit. The initial massing studies revealed that this created the look of fabric draping over the building, so the design was developed to accentuate this effect utilizing cladding in flat and undulating stainless steel panels. Seven sides of the tower have this configuration, while the south side of the tower is sheared into a flat plane that contrasts the curvature of the other façades and strengthens the sculptural composition. At the base of the tower a simple five-story brick podium ties the tower to the scale and spirit of the neighboring buildings.

Due to the undulating façade each floor of the tower and each residential unit on the seven undulating sides has a different configuration. The apartment interiors were carefully designed to take best advantage of these unique conditions, with large windows framing views and creating window seats on some of the large window sills that are created by the movement of the wall from floor to floor. The bay windows also afford residents the opportunity to step out past the plane of the exterior wall in what the architect has coined “stepping into space” and to have the feeling of being suspended over the whole of Manhattan. The apartments range in size from 450 sq ft (41 sq m) studios to 1,700 sq ft (158 sq m) three bedroom apartments at the top of the tower. All residential units are provided with natural light and natural ventilation to minimize the demands on artificial ventilation and lighting, further, natural daylight is provided for in three quarters of the buildings residential corridors.

The tower was designed using software developed by Gehry Technologies called Digital Project. The software enabled cost and fabrication information to be automatically produced as part of every design iteration, which allowed the design team to optimize the design quality while continually meeting the client’s budget. The project’s exterior wall was completely documented in the 3D computer model. The curtain wall geometries were rationalized into three types of geometries—standard flat panels, moderately shaped panels, and highly shaped panels. The software enabled the designers to apportion the complexity to within the client’s budget. The shop drawings were produced automatically from the digital model and connected directly to the fabricator’s production machinery. This streamlined communication and removed errors. Because of this tight coordination from design through fabrication, there were zero change orders from the contractor on the curtain wall, a significant cost saver on the project.

All new parking is provided on the site underground helping to reduce the impervious site surface. The parking garage mechanical system is designed as a demand control ventilation system. Air flow increases within the parking garage as Carbon dioxide is detected within the garage. This system minimizes the amount of energy used to operate the system.

Several strategies were implemented in the design to reduce energy consumption in the tower. All components of the exterior curtain wall assembly are thermally broken and high-performance insulated glass was used at all glazed openings, minimizing heat loss through the exterior wall system. Light reflecting pavers were used on all roofs to minimize the amount of heat gain to the building and create a thermally protected roof slab. Radiant floor heating is provided in the public spaces to minimize the excessive loading on the mechanical systems and high efficient linear fluorescent light fixtures are used through the residential corridors.

Eight Spruce Street

CTBUH Initiatives

[Eight Spruce Street Residential Tour](#)

28 Oct 2015 – Tour Report

[Eight Spruce Street Chosen as Featured Building](#)

Sep 2012 – Featured Tall Building

[New York City Scrapers](#)

4 Oct 2011 – Event

[More Initiatives →](#)

Research Papers

[New York: The Ultimate Skyscraper Laboratory](#)

Oct 2015 – CTBUH Journal, 2015 Issue IV

[New York City Scrapers](#)

Aug 2011 – CTBUH Journal, 2011 Issue III

Videos

[Session 2: What Contributes Most to Sustainability in Tall Buildings?](#)

11 Jun 2013 – Dennis Poon, Neville Glanville, Klaus Lothar & David Malott

[The Design Process of Complex Architectural Facades](#)

20 Sep 2012 – Bert van de Linde, Technical Director, Permasteelisa Group

[MFREE-S Closed Cavity Façade: Cost- Effective, Clean, Environmental](#)

19 Sep 2012 – Henk de Bleecker, Group R&D Manager, Permasteelisa Group

[More Videos →](#)

CTBUH Awards

[Best Tall Building Americas 2011 Winner](#)

CTBUH Awards 2011

To submit more information or donate images for this project, please use our [submission portal](#).