

Tony Nicaastro
Structural Option
110 Third Avenue
New York, NY 10003

110 Third Avenue

Project Team

OWNER: TOLL BROTHERS INC.
ARCHITECT: GREENBERG FARROW
STRUCTURAL ENGINEER: AXIS DESIGN GROUP
MEP ENGINEER: MGJ ASSOCIATES INC.
GEOTECHNICAL ENGINEER: LUNGAN
CM AGENT: TISHMAN CONSTRUCTION
CONSULTANT: LZA/THORTON-TOMASETTI

Structural System

- CIP concrete system
- 8" two-way slab system
- Loads are carried from the two-way slab system to concrete columns ranging from 12x12 to 40x12
- Concrete columns recessed from perimeter approximately 10" to allow for non-bearing exterior panels
- The only beams present in the structure surround the elevator core and stairwell, and also grade beams in the basement level that extend to the face of the building.
- Roof is flat slab system with roof drains nested under pavers
- Footings range from 4'6" square up to 15' x 9'6"
- Shear walls extend entire height of the building and are located around the elevator core.

Electrical/Lighting System

- Electrical service is brought into 110 Third Avenue by Con-Edison service 120/208V 3 Phase 4 wire distributed to two switchboards located on the cellar level.
- Switchboard 1 services the residential portions of the building, retail space, and gym area Switchboard 2 powers utilities such as the sprinkler system, fire pumps and elevators.
- Circuit wire sizes are most commonly 2 #12-3/4"C, and branch circuit breakers are most commonly 1 pole, 20 Amp.



Architecture

- Net Square Feet: 107,100 SF
- Usage:
 - Primary Occupancy- Residential
 - Secondary Occupancy- Retail, Floor 1
- Number of Stories: 21 above grade, 2 below
- The exterior walls of 110 Third Ave. consist of a "window wall" system. This system is fixed window units fabricated with flush aluminum panels finished to match the window wall that rests on the slab.
- On the North and East sides of the building are balconies from floors 8 through 16 and 16 through 21, respectively.

Mechanical System

- 2400#/hr and 2,400,000 BTU/hr. steam supply
- Heat exchanger supplies individual units via individual hot water unit heaters.
- A second heat exchanger serves the primary condenser water loop and is tied to a 2-cell cooling tower serving the water-source heat pumps at 990 CPM per tower with 330 tons capacity per tower.
- CFM total is 48680
- Common spaces are conditioned by a dedicated VAV box rated at 1040 CFM.