ONE BLOOR WEST

INNOVATION OF THE YEAR, CONSTRUCTSTEEL AWARDS

PROJECT OVERVIEW

A 300 m+ mixed-use tower in downtown Toronto, with a column-free retail base enabled by a hybrid steel and concrete structure.

THE INNOVATION

Patented modular composite columns combine encased structural steel sections within reinforced concrete to deliver exceptional capacity, compact sections and faster site assembly.

EXPLORE THE
2025 AWARD WINNERS

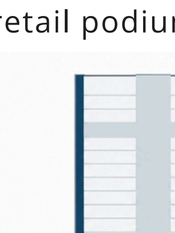


Toronto, Canada · Architectural rendering

OPEN SPACE

Inclined struts transfer tower loads to perimeter mega-columns, opening the retail volume below.





900 m²

clear-span retail footprint

8 perimeter mega-columns

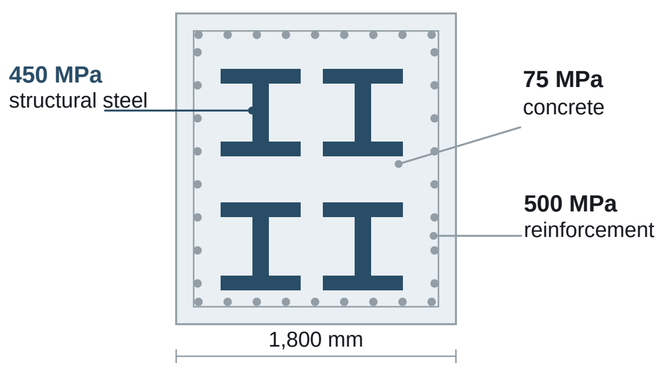
Concept plan · not to scale

Photo: Jack Neal / UrbanToronto

COMPOSITE MEGA COLUMNS

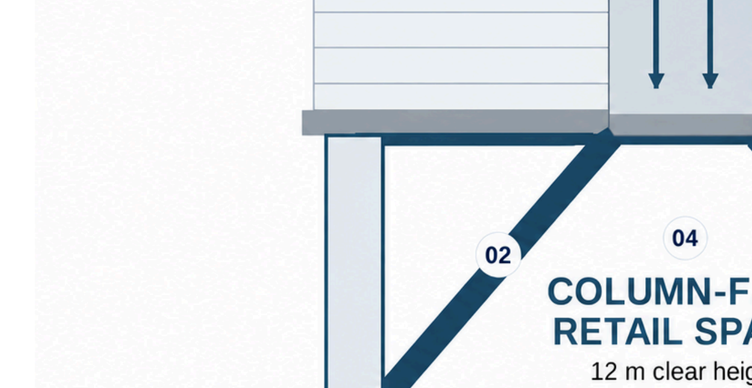
Four high-strength steel sections, reinforcement and concrete form a compact composite mega-column.

1,800 × 2,000 mm



FOUR HIGH-STRENGTH STEEL SECTIONS
+ reinforcement + high-performance concrete

Schematic section · reinforcement simplified



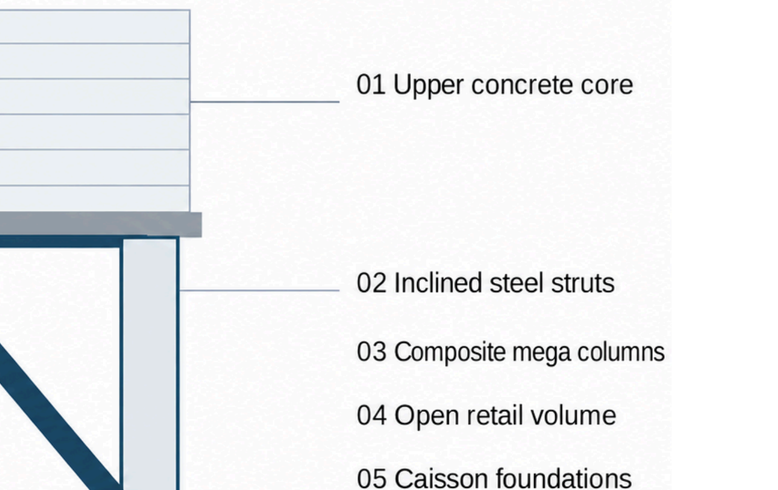
FABRICATED STEEL SECTIONS

MODULARIZED COLUMNS

Steel and reinforcement are assembled into modules in the shop, then lifted into position on site.



SHOP-ASSEMBLED MODULES



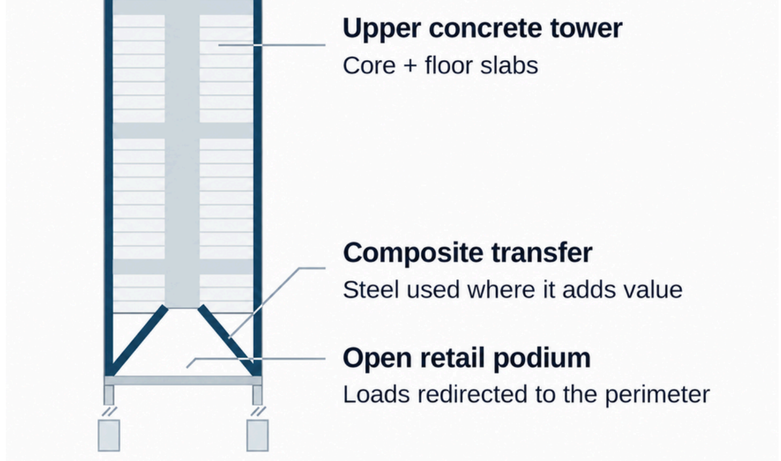
MODULE LIFTING ON SITE

FROM FACTORY TO SITE

Fabricate — Steel + cast solid node blocks → **Rebar** — Rebar in shop → **Transport** — Ship modules → **Lift** — Onsite Crane → **Connect** — Accurate site assembly

STRUCTURE & SPACE
A CLEAR LOAD PATH

Steel transfer members redirect upper-tower loads to eight perimeter mega-columns, allowing the central core to stop above the retail podium.



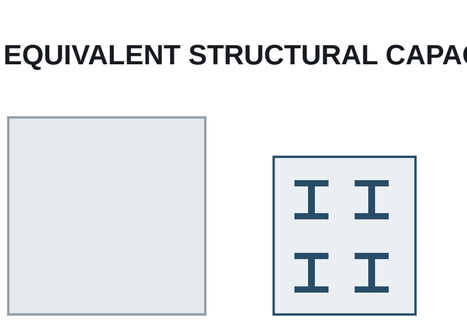
Structural hierarchy · schematic

LOAD PATH

Conceptual load path · geometry simplified · not a construction drawing

AREA GAIN

EQUIVALENT STRUCTURAL CAPACITY



RC COLUMN
2,500 × 2,500 mm

COMPOSITE
1,800 × 2,000 mm

+48.2 m²

usable floor area across three levels

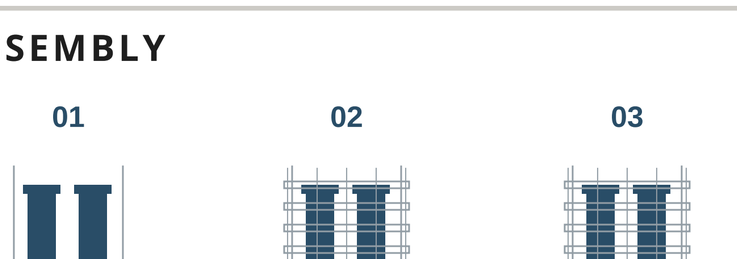
+21.2 m² at ground level

+13.5 m² at each of Levels 3 and 4

2.65 m² saved per ground-floor column

Same scale · ground-level sections · based on Engineering One Bloor West, p. 7

ASSEMBLY



Module sequence · schematic

PROJECT TEAM

Structural engineer
RJC Engineers
Steel fabrication & erection
Walters Group
Architects
Foster + Partners / CORE Architects

Photos & rendering: RJC Engineers / Walters Group / ArcelorMittal. Diagrams: schematic, based on Engineering One Bloor West. Award: constructsteel 2025.