

Redevelopment of Block 37

Chicago, Illinois

Owner

Media Office Tower: Golub & Company
Retail: Joseph Freed and Associates
Transit Center: Chicago Transportation Authority

Architect

Media Office Tower: Perkins+Will
Retail / Transit Center: Gensler

Total Area

Media Office Tower: 17 stories,
550,000 sf
Retail: 5 stories, 400,000 sf above
transit area
Transit: 4 below-grade levels

Completion Date

Media Office Tower: 2009
Retail: 2009
Transit: On-hold

Construction Cost

\$500 million



The Redevelopment of Block 37 is a significant mixed-use retail, entertainment, office and transit project located in downtown Chicago. Thornton Tomasetti is the structural engineer for three segments of the project, working with three different owners and two architects.

The 17-story Media Office Tower encompasses 550,000 square feet of Class-A office space with one basement level and includes a street-level, state-of-the-art television and radio station broadcast and operations center. The original 1920s mid-rise building on the Media Tower site contained three sub-basement levels. When the building was demolished, the below-grade structure and debris from the demolition was left in the basements, making it difficult to excavate the site for the new Media Tower. The new building reused many components of the original foundation, including hand-dug rock caissons and portions of the perimeter basement wall.

The Retail portion of the project comprises 70% of the site and utilizes an up-down construction technique. Up-down construction was chosen to accelerate the project schedule by enabling below-grade and above-grade construction to happen simultaneously. Below the 400,000-square-foot, five-level retail development is a four-level, below-grade concrete basement that provides space for retail, parking and transit. Excavation of the four-level basement was complicated by the need to keep local services active. An earth retention system was selected and designed to protect the active freight tunnel located eight feet from the property line, the transit tunnels, and a pedestrian tunnel during excavation of the four sub-basements.



A challenging aspect of the Transit Center was interconnecting two existing subway tunnels with the retail area. Large openings for the train tunnels were required at 45 feet below grade so the wall panels were designed to withstand the high soil and water pressures due to temporary loading before the train tunnels were installed.

The path of the trains requires a column-free space with long spans over 40 feet for the concrete slabs above. The resulting column grid at the transit level is irregular and on a diagonal. The project required story-deep Vierendeel trusses with 48-inch-deep plate girder chords to transfer out the retail and future development loads from above and took into consideration strict deflection criteria to accommodate escalator supports that connect the Transit Center to the retail area.