



### Project Scope

An outstanding example of the Art Deco style, 70 Pine Street was constructed in 1932 for the Cities Service Company (later called Citgo). It was sold in 1976 to the American International Group and then to a succession of developers. The building was designated a New York City landmark and is currently undergoing renovation to become ultra-luxury rental apartments. At 67 stories, it reaches 952 feet with the roof at 850 ft.

Plan B Engineering designed a temporary elevator complex on the Cedar Street facade to serve the third through 63rd floors. The elevator was a system of four elevator cars in two banks attached to a common platform allowing any one of the cars to serve any floor.

The foundation of the hoist required that a lane of Cedar Street be closed and a series of piles be drilled through an existing foundation wall to rock for support of a low tower steel tower and cantilevered dunnage system. The low tower was not attached to the face of the structure at all to preserve the historic facade and spanned as a beam from grade to the third floor. The dunnage system at the third floor supported the 714 foot common platform.

As the building rises, the facade steps in and the building narrows. The temporary elevators don't step in, so the common platform takes the shape of a causeway or run-back to the face of the building so that men and materials can move to and from the elevators. At the top floor, the runback extended 45 feet from the face of the building.

The common platform and temporary elevators could not be tied to the facade, so all the ties had to go through the windows. Each tie level required struts through the window tied to a kickstand like steel frame inside the building to transfer lateral loads to the floor diaphragms. The tie level required its own diaphragm to transfer the forces from the temporary elevators to the ties.

### Project Expertise

- Scaffolding
- Demolition
- **Historic Stabilization**
- Overhead Protection
- Shoring and Bracing
- Pedestrian Protection
- Rigging
- Safety and Access
- **Hoisting and Runback Platforms**
- Temporary Enclosures
- Netting
- Jacking

Innovative Structural Engineering Solutions

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