Buildings

CONSTRUCTION ADVISORY: LOAD-BEARING MASONRY PIERS

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ENSURE SAFETY AND COMPLIANCE WITH PROPER OVERSIGHT AND INSPECTIONS DURING WORK

BACKGROUND

Older buildings were often built with solid masonry exterior walls. These buildings may also contain solid masonry piers, either exterior or interior to the building, which support walls, floor framing, or columns above them.





WHAT IS A LOAD-BEARING MASONRY PIER?

Masonry piers are essentially columns built from solid brick masonry, which may have a wall-like appearance. A *column* refers to any vertically oriented member which is designed to carry compressive loads, usually from the weight of the structure and occupants of the building as well as environmental loads such as wind, earthquakes, or snow.

Piers support the weight of the walls, piers, and parts of the floor structure above them in their vicinity. This makes them critical components of the building, as they support a large percentage of the building's area.

WHAT SHOULD YOU KNOW?

Improper repair and maintenance of load-bearing masonry piers can be very dangerous. Masonry piers are critical members that support a large percentage of a building's overall floor area.

WHAT HAPPENED HERE?

In December 2023 there was a major collapse of a load-bearing masonry pier at the ground level of an occupied building which was undergoing façade repairs. This collapse caused several minor injuries and displaced dozens of tenants from their apartments as the structure above the pier collapsed.



- It was found that façade repair drawings did not properly identify this pier as a load-bearing member supporting a significant percentage of the building area from the 1st floor through the roof.
- No shoring or other means of temporarily supporting building gravity loads was in place during work on the masonry pier.
- Special inspections for structural stability were not identified or performed as required by Code.
- Removal of masonry at the load-bearing masonry pier caused the pier to become overstressed, buckle, and collapse. This caused the corner of the building above, which relied on this pier for support, to collapse.

WHAT SHOULD YOU DO?

Proper planning is required to ensure safety when doing construction work in New York City. Prior to starting work on masonry piers, the following should be completed:

- Design professionals or building owners should request historical building drawings from DOB via the Records Request feature on DOB NOW.
- Design professionals should coordinate probes or other exploratory measures to fully understand the buildings structural system prior to preparing construction drawings.
- Construction drawings should be complete, accurate, and convey all necessary information and requirements to the contractor. Load bearing members shall be identified, locations of shoring (if required) shall be clearly marked, and work sequencing shall be clearly stated.

During work, proper oversight and inspections by the design applicant are necessary to ensure safety and compliance with NYC Construction Codes. Regular special inspections shall be performed to ensure conformance to design documents. The design applicant shall be notified of any discrepancies or non-conformances prior to continuation of work.



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