



Concrete Protection & Restoration

The McLean House Condominium—Balcony Repair

The McLean House Condominium was built in 1975 and it is a high-rise residential building located in the heart of McLean, Virginia. The structure is cast-in-place concrete reinforced with post-tensioning tendons that extend through the floor slabs and beams and continue through cantilevered slabs that form balconies for the individual units.

The engineer and owner contracted CP&R to assist the engineer in the investigation and prototype repair of one balcony. The prototype was to be the first phase in systematically repairing all of the building's balconies. CP&R began the project with an experienced and knowledgeable team that quickly proved that it was adept at solving problems and executing this type of project in a professional and safe manner. Therefore, well before the first phase was completed, CP&R was asked to help develop a comprehensive approach to the repair of the remaining balconies which would involve a better schedule, efficiency, and cost savings for the owner.

Location

McLean, Virginia

Project Size

\$3,000,000.00

Owner

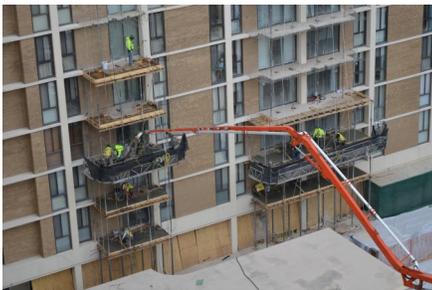
McLean House Condominium

Engineer

Thomas Downey, LTD.

Repair Sequencing

- ◇ Provide swing stages for access and engineered shoring system.
- ◇ Locate post-tension tendons and remove concrete for an access "pocket".
- ◇ Install a temporary anchor close to the building wall.
- ◇ De-tension the balcony portion of the tendon while the tendon inside the building remains functional.
- ◇ Remove all deteriorated concrete including the full balcony if required.
- ◇ Install new encapsulated end anchors, new PT strand, and splice chuck at each tendon.
- ◇ Install supplemental mild reinforcing end wire mesh.
- ◇ Form and place 4000# normal weight concrete.
- ◇ Remove the temporary repair anchors and stress the new tendon.
- ◇ Remove formwork and shoring after design strength is attained.
- ◇ Install waterproofing deck coating at the top surface and acrylic coating on the balcony soffit.
- ◇ Furnish and install new aluminum railings and privacy panels.



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Saving the life of concrete!

2811 Lord Baltimore Drive
Baltimore, MD 21244

601 NE 44th Street
Oakland Park, FL 33334

www.concretecpr.com
Toll Free: 800-452-3137
E-mail: info@concretecpr.com

