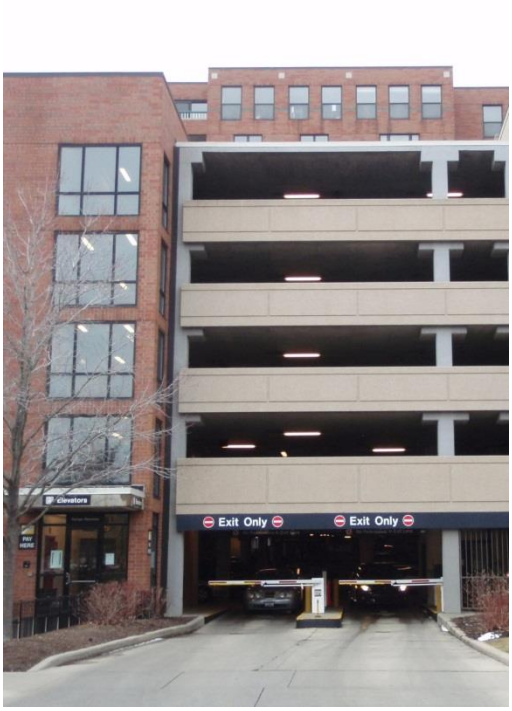
PROJECT PROFILE

Evanston Parking Garages

Comprehensive Repairs | Evanston, IL



CLIENT

City of Evanston

BACKGROUND

Three garages owned by the City of Evanston were the subject of this project—the five-story Church Street Garage, built in 1989; the six-story Maple Avenue Garage, built in 2000; and the twelve-story Sherman Plaza Garage, built in 2004. Each garage is constructed of post-tensioned concrete slabs and each has a facade consisting primarily of precast concrete.

Although the garages were generally in good condition, repairs and improvements were desired to address known distress and deficiencies and to improve the durability of the garage structures. The City of Evanston retained WJE to design repairs and improvements to the three city-owned garages.

SOLUTION

The distress and deficiencies addressed by the repairs included unsound concrete, strength deficiencies of vehicle guard walls, deficient gravity and lateral supports for precast concrete facade panels, cracked welds in aluminum facade components, and cut beam stirrups at pipe penetrations. WJE performed surveys to document the extent of concrete deterioration, deficient facade panel connections and other existing conditions. Analyses were performed to design structural repairs, including beam capacity based on the damaged and the remaining beam stirrups. In addition to preparing specifications and drawings to implement the repairs, WJE also provided engineering services during the bidding and construction phases of the repair project.

WJE's scope was later expanded by the City to include the investigation of cracking at light pole base connections on the top level of the Sherman Plaza Garage. WJE then designed replacement light poles and also performed a comprehensive close-up inspection of the garage's facade.

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS