



PROJECT PROFILE

Robert D. Moreton Building

Assessment of Distress to Precast Facade Panels | Austin, TX



CLIENT

Tom Green & Company Engineers on behalf of the Texas Facilities Commission

BACKGROUND

Constructed in 1987, the seven-story Moreton Building is comprised of a cast-in-place concrete frame with precast concrete wall panels. The building was undergoing assessment during the Deferred Maintenance Project, performed for the Texas Facilities Commission, when distress was noted in the wall panels.

At the time of WJE's facade assessment, the distressed panels at the Moreton Building were comprised of an architectural concrete mix, with exposed crushed granite aggregate and pink pigment. The wall panel distress included bowing of the precast wall panels, separations in wall finishes adjacent to the exterior walls, and spalling of the panels near joints. WJE was requested to perform an assessment of the panel bowing.



SOLUTION

WJE's initial investigation included a visual condition survey and laboratory analysis of core samples taken from the building. Through this assessment, WJE was able to determine that the distress was due to delayed ettringite formation, a type of internal sulfate attack. WJE performed additional laboratory analysis and determined it was highly likely that the distress would continue, to the point that the structural integrity of the panels could be compromised. WJE developed temporary repairs to slow the rate of distress but recommended that the State plan to eventually replace the panels. The State implemented the temporary repairs and then began allocating funds for removal of the panels and replacement of the building envelope. WJE subsequently served as the exterior envelope consultant on the design team for the recladding project.

