



PROJECT PROFILE

Perot Museum of Nature & Science

Construction Observation and Water Testing | Dallas, TX



CLIENT

Balfour Beatty Construction

BACKGROUND

The Perot Museum of Nature and Science is located in Dallas, Texas.

The unique structure is comprised of individually unique precast concrete panels utilizing dual sealant joints between panels. A glass-encased escalator is mounted along the exterior of the structure on the south elevation. The structure also features a plinth roof at the lower level, which includes skylights and unites the building structure with the natural environment.

WJE was not involved in the design of the building enclosure but worked with the general contractor, Balfour Beatty, during the construction phase.

WJE was engaged by the general contractor to provide building enclosure consulting during the construction of the building. The building was designed by Morphosis Architecture and included unique architectural components, design, and use of materials. The project was constructed under a "Design Assist" contract between the Architect and General Contractor, resulting in both limited detailing during the design phase and a significant amount of design responsibility by the general contractor during construction.



SOLUTION

Balfour Beatty engaged WJE to attend selected planning and progress meetings, to develop a water leakage testing protocol, to perform water leakage testing, and to assist with design of repairs or design modifications to alleviate problematic conditions. Various interfaces between fenestrations, cladding, roofing, and waterproofing components required design input from WJE to resolve conflicts during construction.

WJE performed approximately 150 individual water tests, employing ASTM and AAMA testing procedures. WJE also witnessed fifty tests performed by independent testing agencies. Where leakage was observed, WJE provided guidance on the proper remedial measures to address the leakage. Follow-up testing was also performed at affected areas to verify the adequacy of remedial measures.

Many of the water tests performed by WJE required difficult access and creative methods of reaching the test location and performing the required testing. These tests were accomplished with the cooperative efforts of WJE and an in-house safety coordinator as well as with assistance from the involved subcontractors and general contractor. A good working relationship and communication were critical to ensure safe and successful testing at these locations.