



## PROJECT PROFILE

# Denison Travel Center

Water Infiltration Investigation | Denison, TX



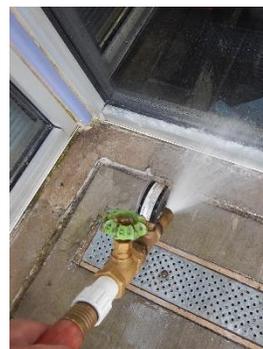
### CLIENT

Texas Department of Transportation (TxDOT)

### BACKGROUND

The Travel Center is one of twelve travel information centers operated by TxDOT to provide travel and tourist information to incoming motorists as they enter the state via the major highways. Notable architectural features include a barrel vault skylight and granite-clad tower. The 6,800-square-foot building is primarily clad with clay brick masonry veneer. The roof system features a multi-ply asphalt roof and architectural standing seam sheet metal. The window systems include aluminum-framed storefront and punched window units, aluminum-framed monitors, and clerestory windows. The main visitor lobby area features the aluminum-framed barrel vault skylight.

TxDOT retained WJE to perform a water infiltration investigation at the Travel Center. It was reported to WJE that the Travel Center had experienced water infiltration issues shortly after it opened in 1994. Many attempts had been made to identify and repair the problems, but prior to WJE's involvement, none had proven successful. In addition to the water infiltration investigation, WJE performed an assessment of the building to determine the existing condition of the building envelope systems.



### SOLUTION

To identify the sources of water infiltration, WJE first conducted a visual survey of the interior and exterior of the Travel Center to find evidence of water infiltration and to identify conditions that could be contributing to the ongoing water infiltration. WJE then employed a regimen of spray testing to identify and confirm the sources of water infiltration. Once water infiltration was confirmed through spray testing, investigative openings were made on the interior and exterior to determine the deficiency that was allowing water to bypass the building envelope systems.

Fifteen different areas of water infiltration were identified—the majority of them caused by improper lapping of masonry through-wall flashing. Deteriorated gaskets and window sealant, improperly applied waterproofing membranes, failed and deteriorating sealants, and punctures in the roof membrane also contributed to the water infiltration. WJE provided schematic repair recommendations and an opinion of probable cost for the repairs.