Wet Wells

Problem

Exfiltration prevention and wet well rehabilitation 750 feet underground

Project

Rehabilitation of wet wells serving restrooms 750 feet underground in caverns

Client

**National Park Service, Carlsbad Caverns,
New Mexico**

Location

Carlsbad Caverns, New Mexico

Description

Two wet wells located 750 feet underground serviced the restrooms in Carlsbad Caverns. Both being rectangular structures with slanted bottoms, they were experiencing deterioration problems that could lead to problems of exfiltration, contamination and odor into surrounding caverns.

Solution

To prevent the likelihood of exfiltration into the cavern areas, the NPS chose to structurally line the wet wells with the Poly-Triplex Liner System. The Poly-Triplex system has a non-porous membrane that is laminated between fiberglass layers. The liner is cured in place and comes with a 10-year warranty. The non-porous membrane would permanently eliminate any

exfiltration into the surround areas. Installed in panels and cured with an inflation canister and inflation bladder from the adjacent room above, the liner was cured in place at 110 degrees overnight, resulting in a monolithic and non-porous liner, tying together the walls and floor section of the structure.

Benefit

Liner stopped the deterioration and likelihood of eventual exfiltration of sewage into the surrounding cavern, eliminating a potential problem that could have resulted in a horrific problem for the park service in this beautiful and pristine cavern.

Left: Beautiful Carlsbad Cavern receives throngs of visitors each year.
Upper Right: Panels cut to the exact length of the walls with sloped angle at the bottom are hung.
Lower Right: Photo of the walls lined with the Poly-Triplex Liner System and the inflation bladder, prior to removal.

Comments

The National Park Service is pleased to have this problem resolved without any excavation and minimal disruption of service to the facility.