

Environmental – Case Study 1



Problem

Severe infiltration in overflow pipe – lake losing water



Project

Rehabilitation of stormwater overflow manhole (located in middle of lake in golf course community)



Client

Dogwood Lakes Community, Holmes County, Florida



Location

Dogwood Lakes, Holmes County, Florida

Description

Tens of thousands of gallons of water per day were infiltrating into the structure primarily from the bottom of the lake. The infiltrating water was boiling in through the bottom and was being discharged into a ravine at the end of the storm drain pipe, steadily reducing the level of the lake.

Solution

The Poly-Triplex Liner System was chosen to structurally line the entire manhole structure. The liner was made considerable thicker in the bottom and floor section of the structure. Once installed, the liner is bonded to the host structure and has stopped all infiltration of lake

water coming from that area. The company provided the City of Bonifay with a 10-year non-prorated warranty to stop the infiltration.

Benefit

There was a huge cost savings in being able to line the structure. The problem was resolved within two weeks at a construction cost of less than \$20,000, rather than the anticipated cost of approximately \$300,000, or more. In one month, the lake was already within one foot of being at the maximum lake level. Docks are back to a useful position for boating and lake recreation and the people of Holmes County and residents of Dogwood Lakes are happy to have their lake back to normal, finally.



Upper Left: Lake lowered approximately 5 feet lower than normal.

Upper Right: Lake water boiling into the structure.



Upper Left: Lake water being discharged through overflow pipe.

Upper Right: Overflow pipe structurally lined and all infiltration stopped.

Comments

Excavation for replacement of the structures was near impossible and it was expected that a repair cost would be several hundred thousands of dollars and would include either building a coffer dam or draining the lake at least another 12 ft. This method would also have required closing of the road. The road was one of only two roads coming into the neighborhood – and disruption of traffic and utilities, for an extended length of time, would have been a serious inconvenience for visitors and residents.