READYING CRITICAL INFRASTRUCTURE FOR THE FUTURE

Pikes Creek Dam Rehabilitation I Luzerne County, Pa.

The enhanced efficiency of the spillway system ensures
"THE DAM WILL NEVER BE OVERTOPPED."
— Anthony Nokovich, PE
Pennsylvania American Water Company
Engineering Practice Lead

Pikes Creek Dam stores 2.9 billion gallons of water and provides drinking water for 29,000 customers in 15 communities. The existing spillways passed 23 percent of the probable maximum flood (PMF) before overtopping the dam. The owner, Pennsylvania American Water, took action to meet PADEP regulations requiring it to pass 100 percent of the PMF. The $20 million rehabilitation addressed inadequate spillway capacity, upstream closure, slope stability, and seepage deficiencies.

The century-old Pikes Creek Dam spillway has been upgraded with the unique Hydroplus®. Fusegate® System, an innovative solution for increasing spillway capacity. The Fusegate alternative saved approximately $5 million in construction costs and is the second installation of Fusegates in Pennsylvania.

The spillway is designed with eighteen Fusegates that tip at progressively higher reservoir levels during a precipitation event which prevents the earth-fill dam from being overtopped. Fusegates will tip for an event significantly greater than the 1,000-year storm.

An underwater installation of pneumatically operated knife gate valves provides upstream closure of the outlet works. Adding a chimney, blanket, and toe drain provides collection and filtration of seepage. Flattening the downstream slope improves embankment stability.

Gannett Fleming led the dam rehabilitation design while maintaining continuous service and supplying raw water throughout construction. The rehabilitated infrastructure not only meets standards but also safeguards downstream communities.