

East Low Siphon

Othello, Washington



Project Profile (2017)



Project Summary

The East Columbia Basin Irrigation District in Othello, Washington, receives regulated water from the East Low Canal to irrigate agricultural land located in Adams and Grant Counties. It's part of the Columbia Basin Project, which prevents economic and environmental disaster by replacing groundwater withdrawals from the Odessa Aquifer with surface water from the Columbia River. Every drop of water counts. Without proper irrigation, 154,316 acres of land is at stake.

Water is moved from basins, dams, and irrigation canals through concrete siphons. Over time, the concrete shows signs of deterioration through cracking and joint failure. Water lost through the cracks means less water is available at its end destination for irrigation. If the cracks are wide enough for excessive water loss, soil near the crack can become eroded, which reduces cropland

productivity and soil quality. Cracks in a concrete siphon also create the potential for agricultural chemicals to seep into the water source, posing a danger to local environmental health and public safety. And if the siphon exists under roads, deterioration can pose the danger of a collapse.

The East Columbia Basin Irrigation District used PREVent-C® when building two siphons in Lind Coulee because of its ability to reduce concrete shrinkage cracking up to 90 percent. Each siphon barrel required 78 CY of concrete. They measured 25 feet long and 17 feet in diameter, with a 17-inch wall thickness.

Previous siphons built by the Irrigation District experienced 25 percent joint failure, leading to shrinkage cracking and water loss. With PREVent-C, joint failure was reduced to 1 percent.

PREVent-C has been used in many concrete structures including dams, wastewater treatment plants, bridge decks, shotcrete, pools and marine structures, secondary containment, and airports. Because of PREVent-C's extensive history with water structures, the East Columbia Basin Irrigation District was confident that this product would give the siphons the best chance at minimal water loss, safety, and a long lifecycle.

Owner: East Columbia Basin Irrigation District
Engineer: U.S. Bureau of Reclamation
Contractor: Rotschy Inc.
Ready-Mix Producer: Central Pre-Mix Concrete Co.
Products: PREVent-C®



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