



PCCP, THE BEST DAM PIPE

ONLY PIPE SPECIFIED FOR WEST VIRGINIA EARTHEN DAM PROJECT

- ▶ Thick walls
- ▶ Rigid
- ▶ Joints are leak free and require no welding



GET THE RIGHT DAM PIPE

Overview

Built in 1958, the Cobun Creek Reservoir in Morgantown, West Virginia, served Morgan County residents for more than 60 years. To meet population growth demands, leaders took steps to increase water supply storage capacity from 3 to 30 days. In 2018 the Morgantown Utility Board broke ground on a new 74'-earthen dam. After the reservoir is filled, the new dam will retain 370 million gallons of water.

Pipe Selection

Pipe selection is critical. Select the wrong pipe for a dam and the outcome could be disastrous. Imagine the financial and environmental impact to draining a reservoir and putting in new pipe. Thompson Pipe Group manufactures steel, bar-wrapped and several other pipe options, but we only recommend one for conduits through dams.

Because of its inherent strength and its ability to handle any feasible load, the project owner only specified one pipe option – prestressed concrete cylinder pipe (PCCP). Thompson Pipe Group manufactured and delivered 480' of 48" lined AWWA C301 and 66" embedded AWWA C301. What's the difference?



Lined-cylinder Pipe (LCP)

LCP consists of a welded steel cylinder with steel joint rings at each end, an internal concrete core, high-tensile strength steel wire wrapped directly on the steel cylinder and an external coating of Portland cement mortar. LCP is generally used in diameters up to 48".

Embedded-cylinder Pipe (ECP)

ECP consists of a welded steel cylinder with steel joint rings at each end and embedded in a concrete core, high-tensile strength steel wire wrapped on the exterior concrete core surface and an external coating of Portland cement mortar. ECP is generally used for diameters greater than 48".

Dam Cover

Earthen dams may require up to 100' of cover. In fact, Thompson Pipe Group engineers have designed PCCP to withstand 150' of cover. The unique design concept of PCCP, featuring a steel cylinder for water-tightness and a rugged, high-strength concrete structural core circumferentially prestressed with high strength steel wire, makes it the best option. The Portland cement-rich mortar coating provides a passivating alkaline environment for the steel cylinder, joint rings and prestressing wire to protect against corrosion. Since concrete continues to gain strength while underground, PCCP provides superior service.



PCCP is a rigid pipe with flexible joints. For this project, Thompson Pipe Group manufactured thick walls with 8.5" of concrete and 1" of mortar to withstand earth loads. The total thickness is about 3.5" greater than the typical 66" PCCP.

Joints

For this project Thompson Pipe Group engineers specified testable harness clamps, a two-part system that is positioned around the joint and secured simply by tightening drawbolts on each side. These harness clamps are testable, leak free and allow zero infiltration. No welding is required. Harness clamps are covered in thick cement-rich mortar coating. No cathodic protection is required.



Installation and Costs

PCCP accelerates installation schedules. The rigid pipe requires no special bedding or backfill. No additional costs are incurred by hauling in non-native bedding materials. Additionally, since no welding is required, owners save time and money on labor costs.