



Modernizing Idaho's Water Infrastructure

An Ongoing Story Series on Idaho Water Resource Board Regional Water Sustainability Projects **ISSUE No. 3**

New York Canal 6-mile Rehabilitation Project Boise Project Board of Control

Overview: The New York Canal runs for 41 miles from the Diversion Dam on the Boise River going west to Lake Lowell. The canal is owned by the Bureau of Reclamation (BOR) and operated by the Boise Project Board of Control, the operating agent for five irrigation districts in the Treasure Valley: Boise-Kuna Irrigation District, Big Bend Irrigation District, Nampa & Meridian Irrigation District, New York Irrigation District, and Wilder Irrigation District.

The New York Canal provides vital irrigation water to the five irrigation districts, which then deliver the water to approximately 165,000 acres of farmland in the Treasure Valley. The whole irrigation network supported by the Boise Project features about 1,500 miles of canals, laterals and drains.

In essence, the New York Canal serves as the backbone of agricultural production in the Treasure Valley. The regional agricultural industry has an estimated value of \$1 billion in direct and indirect economic impact. Primary crops raised in the valley include alfalfa hay, corn, mint, sugar beets, wheat and seed production.

The Boise Project Board of Control delivers both natural flow water rights and approximately 85 percent of the water stored behind Arrowrock and Anderson Ranch Dams on the Boise River to the landowners and farms served by the



Rehabilitation work under way on the New York Canal. The geomembrane canal liner will be capped with concrete to complete construction. (courtesy Boise Project Board of Control)

- **Type of project:** Rehabilitation project for public safety and water conservation.
- **Location:** Six miles of canal in the City of Boise area.
- **Total project cost:** \$81.5 million
- **IWRB funding -** \$50 million - all ARPA funds
- **Start date:** October 2024
- **End date:** Spring 2030

five irrigation districts.

Construction of the New York Canal began in the late 1800s by several private entities, with a bold vision of irrigating 500,000 acres in the Treasure Valley. Its name comes from New York investors who initially put money into the project. The canal was completed in 1909 by the BOR 115 years ago. The principal engineer was Arthur DeWint Foote, an innovative mining and civil engineer who invented the Pelton wheel turbine. Water storage initially was provided by Arrowrock Dam, completed in 1915 by the BOR. Arrowrock stores 272,200 acre-feet of water at full pool. The 350-foot-tall



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New York Canal 6-mile Rehabilitation Project (cont.)

concrete dam was the tallest in the world at the time.

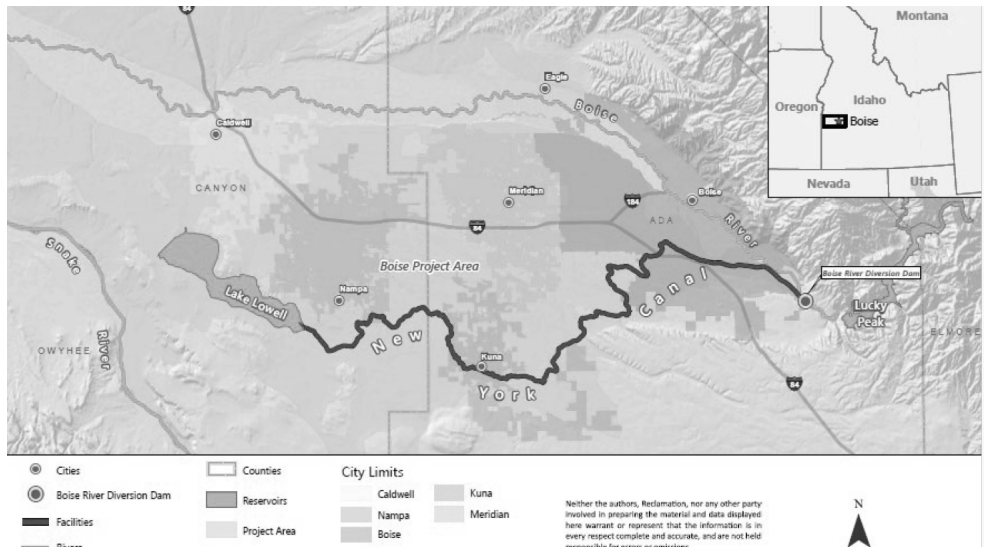
Aging infrastructure: The New York Canal has been rehabilitated numerous times throughout the decades with either concrete or asphalt, with many areas remaining as earthen lining. Currently, the New York Canal is designated as an “Urban Canal of Concern” by the BOR due to its age and public safety. With about 2,500 cubic feet per second of water flow moving through the large canal – located high on a bench above the city of Boise with thousands of homes below – raises the safety question. Thus, rehabilitating and improving the New York Canal is a high priority for Boise Project.

Canal improvements: Since 2014, the Boise Project has designed and performed the construction management and installation of nearly 4,000 lineal feet of an innovative geocomposite lining that consists of polyester non-wovens bonded to a polyethylene geomembrane. The liner is inert to biological degradation and naturally encountered chemicals, alkalis and acids. It was selected for its puncture resistance and interface friction properties that allow the liner to be deployed directly in contact with existing soils and steepened side slopes. The prefabricated multi-layer geocomposite membrane and concrete cap have a life expectancy of 50 years.

In 2023, the Boise Project Board of Control approached the Idaho Water Resource Board (IWRB) with a proposal to rehabilitate six miles of the New York Canal over six years.



Construction contractors unfurl roll of geomembrane fabric in the New York Canal. Below, locator map shows the 41-mile course of the New York Canal.



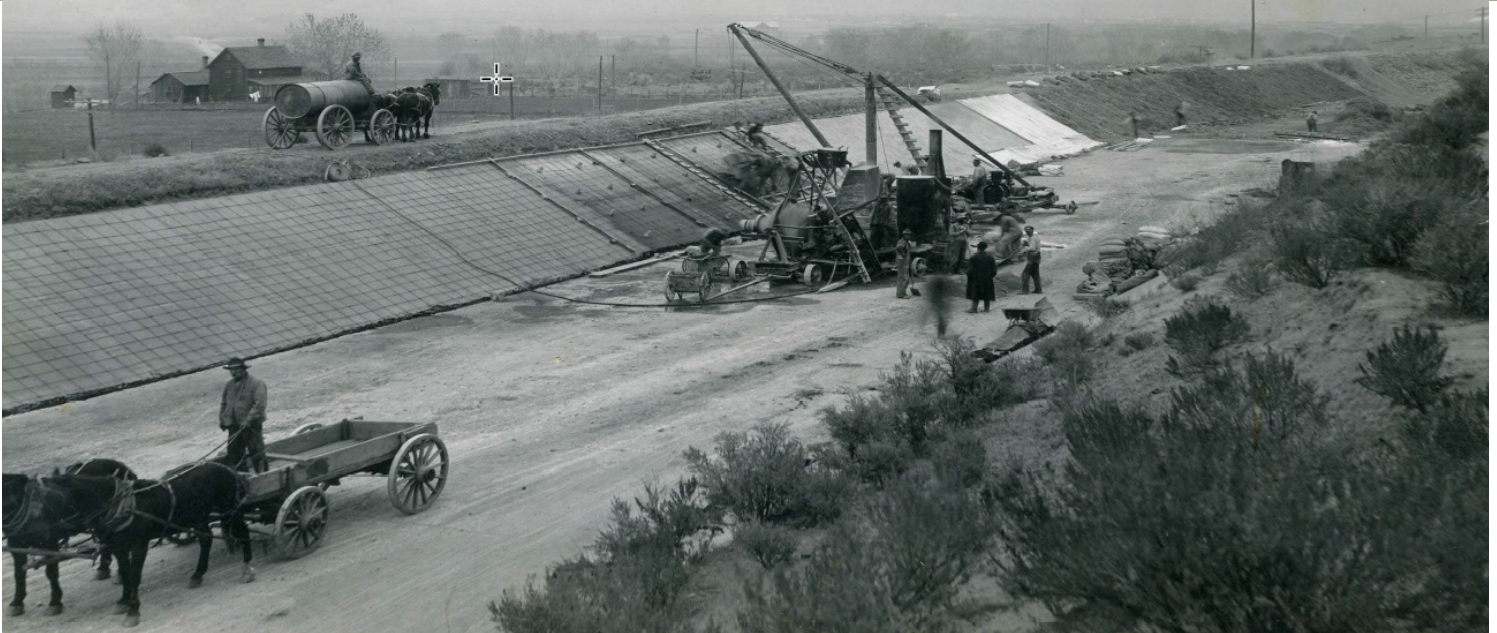
With additional funding, the Boise Project could greatly accelerate the construction schedule. The estimated cost of the full project is \$81.5 million. The Boise Project requested \$50 million in funding assistance from the IWRB. The IWRB

has approved the funding request, all covered by American Rescue Plan Act (ARPA) funds, approved by the Idaho Legislature. The New York Canal project is a high-priority for the state, being on the IWRB's list of major Regional Water Sustainability



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Historical photo of the original construction of the New York Canal in the 1900s. (Courtesy Idaho State Historical Society)

Projects.

The Boise Project also has received a WaterSmart grant from the BOR for the project; it will cover the balance of the project costs with its own funds.

Timeline: Construction begins in October 2024 for the first mile of the project, to be completed prior to the beginning of irrigation season in spring 2025. The Boise Project plans to rehabilitate one mile of the canal during the fall/winter non-irrigation season until all six miles are complete in 2030.

Scope of project: The Boise Project is focusing the rehabilitation project on the first six miles of the New York Canal because it's an area with dense housing that needs the most immediate attention, officials said. These are areas where the canal water flows at a steady rate of 2,500 cfs – the size of a small river – perched above high-density housing and subdivisions.

“Given the age of the canal, we’re

trying to be proactive with our maintenance activities to prevent any kind of major event from happening,” said Bob Carter, project manager for the Boise Project Board of Control.

Historically, there has been only one major breach of the New York Canal, which occurred in the mid-1950s.

Water savings: The rehabilitation project is projected to save a total of about 29,370 acre-feet of water when completed. Water saved by the project “will be left in storage, which helps the reservoirs fill the following year,” Carter said. “It helps not only our patrons, but the fish and wildlife as well, along with the ability to produce clean hydropower longer too. We aren’t “making” any new



Boise River, Diversion Dam and the New York Canal when it became operational in 1909. (Courtesy National Archives)

water, we are just conserving what we already have.”

Overall seepage estimates for the New York Canal range from 37,691 acre-feet of water (BOR 2002 estimate) and 34,834 acre-feet of water (USGS 1997 estimate).

For more information, contact the Boise Project Board of Control, 208-344-1141, <http://boiseproject.net>.