



Drinking Water State Revolving Fund

Snohomish County PUD Dubuque and Cascade Acres Consolidation

Consolidation is a way for troubled water systems to get the help they need to provide their customers with safe and reliable drinking water. One example is the consolidation of the Dubuque and Cascade Acres water systems into the Lake Stevens water system.

The Snohomish County Public Utility District, which owns and operates the Lake Stevens system, applied for and received a Drinking Water State Revolving Fund (DWSRF) consolidation loan of \$3.63 million in 2012.



DWSRF consolidation loans are only available to eligible publicly and privately owned Group A public water systems. Consolidation and restructuring projects require a change of ownership before implementing the funding contract.

These projects must acquire non-compliant, failing, or struggling

public water systems that have water quality problems, or deteriorated infrastructure. Applicants must also demonstrate a track record of sound drinking water utility management. Snohomish County PUD was a successful candidate for a consolidation loan, meeting all the DWSRF requirements to take on this type of project.

Project Benefits

The primary goal of the project was to reduce the risk of water outages by making standby storage from Lake Stevens available. Both the Dubuque water system (with more than 1,000 service connections) and the Cascade Acres water system (with 19 connections) were directly connected to the City of Everett's water transmission lines. There was no storage, and this created a hardship when Everett had to shut down its filter plant or transmission mains for repairs or improvements. Water storage is important to provide a reliable source of drinking water, to reduce the risk of back-flow contamination when a water source is offline, and for emergency response like firefighting.

In the fall of 2008, Everett had two planned shutdowns—one for 12 hours and another for 24 hours. Dubuque residents were notified that the water might have to be shut off during the longer outage. As it turned out, Everett was able to supply water during the planned shutdown. For Snohomish PUD, this was a wake-up call to move up the priority of the Dubuque consolidation project.



Installing 320 feet of pipe under the Snohomish County Bridge #15 on Dubuque Road was a challenging part of the project. Workers had to drill through the concrete to install a 12-inch iron pipe, and then hang a 16-inch steel wrapped polyethylene pipe on supports. After installing the pipes, the roadway was restored to its original condition.

Photos provided by Snohomish County PUD

Project Description

The consolidation project involved the installation of almost three miles of water main pipes, including:

- 5,700 feet of pipe starting at the Dubuque system and connecting to the Lake Stevens system at the Centennial Middle School. This included crossing the Pilchuck River with an attachment to the underside of the bridge.
- 2,900 feet of water main pipe to complete critical loops supporting flow between the Dubuque and Lake Stevens systems.
- 4,500 feet of pipe to upsize and replace old asbestos cement pipe along Machias Cutoff Road to deliver the needed flow from the Lake Stevens storage tanks.
- 1,350 feet to replace pipe in the Cascade Acres system.

The water main pipes were installed beneath a variety of surface conditions, such as paved and unpaved road shoulders, gravel and paved roads, and a bridge. Surfaces were restored to meet the requirements of each jurisdiction, including Snohomish County, the city of Lake Stevens, and owners of the private road in Cascade Acres.

Want to learn more?

More DWSRF success stories are available online at <http://www.doh.wa.gov/DWSRF.aspx>

DWSRF projects must meet requirements in the National Historic Preservation Act (Section 106). Shown here is a Cultural Resources Consultants employee performing subsurface testing prior to construction. No adverse effect to historic properties was discovered and the project was approved to proceed.



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