

Mike Nepple – Relevant Professional Experience

Owner: Lutheran Bible Institute

Project: Holden Village Wastewater System Improvements

References: Kristofer Gilje, Operations Manager - (509)-687-3644 (answering service)

Background: Holden Village is a remote 435-bed retreat located in the Cascade Mountains 40 miles uplake from Chelan, Washington. The village's facilities were originally developed to support a copper mine and are largely self-contained, including operation of a small hydroelectric generation plant and having only satellite telephone service. Recurrent failures had occurred to the village's septic system, including premature failure of a replacement drainfield installed in the 1980's.



Challenges and Issues:

- Holden is only accessible by boat or floatplane followed by 12 steep miles of gravel road above the lake; all supplies are transported by barge.
- The objective was to develop facilities that had minimal operational complexity as the village is operated and maintained by volunteers.

Mike's Role: Project manager for design and construction of replacement septic system.

Scope of Project Services:

- Obtain approvals from US Forest Service & Department of Ecology.
- Perform complete assessment of all facilities, including video survey of the gravity sewer collection system piping.
- Prepare design documents, and provide support to village staff during the bidding, construction, testing, and startup phases.



Project Elements:

- Operational changes were identified that allowed successful interim use of the failed drainfield preceding replacement.
- Installed new duplex pump station in a fiberglass chamber and a simple telemetry system with data logging capability.
- Selective replacement of collection system lateral piping, and installation of two 20,000-gallon fiberglass septic tanks.
- Second phase construction included a five-acre replacement drainfield with 5,000 LF of distribution trenches fed by three siphon vaults to provide effective pressure-distribution while also eliminating the need for a high capacity effluent pumping station.
- An innovative nitrate-treatment system that requires no operational effort or maintenance was incorporated into the drainfield, significantly reducing the mechanical complexity of the overall system and eliminating need for a recirculating sand filter system.

Outcome: The final phase of construction was completed and placed into service in late 2000.