

**Construction Method:**  
**Pipe Ramming**

**Project:** **Saratoga Road Culvert Replacement**

**Location:** **Whidbey Island, Washington**

**Date:** **2008**

**Project Description:**

Staheli Trenchless Consultants provided design services for 170 feet of 30-inch diameter steel culvert installation on Whidbey Island. A 54-inch steel casing was partially installed via auger boring 40 feet below Saratoga Road. STC was contacted to evaluate feasible alternatives to complete the installation which would both address the current site conditions (including the partially installed 54-inch casing) and pose minimal risk to Saratoga Road during construction.

After visiting the site and reviewing the existing geotechnical report, STC recommended open-ended pipe ramming as a feasible method for completion of the project. The final design rammed a 30-inch steel casing through 100 feet of the existing 54-inch casing, and through 70 feet of native soils to daylight. STC provided specialized construction management during pipe ramming operations, and submitted daily records to help protect against claims.



**Job Scope:**

- ❖ Trenchless Feasibility Study
- ❖ Cost Estimate
- ❖ Trenchless Specification
- ❖ Bid Assistance
- ❖ Input to Plan and Profile
- ❖ Risk Analysis
- ❖ Specialized Construction Management



**Reference:**

Phil Cohen, Island County Public Works (360) 240-5546.