



**Construction Method:**

**Microtunneling**

**Project:**

**Willamette River Crossing,  
Portland NW CSO Force Main,  
City of Portland BES**

**Location:**

**Portland, Oregon**

**Job Scope:**

- ❖ Comparative Analysis of Microtunneling Directional Drilling
- ❖ Trenchless Cost Estimates
- ❖ Trenchless Risk Analysis

**Project Description:**

Staheli Trenchless Consultants performed a trenchless feasibility study and pre-design, evaluating three possible Willamette River crossing locations with microtunneling and horizontal directional drilling. The three locations and two trenchless technologies were evaluated for their relative risks, costs, and schedules. These crossings included lengths of over 2,000 feet through basalt, alluvium, and the challenging Troutdale Formation.



**Staheli Trenchless  
Consultants**

ph: 425-205-4930

[www.stahelitrenchless.com](http://www.stahelitrenchless.com)

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