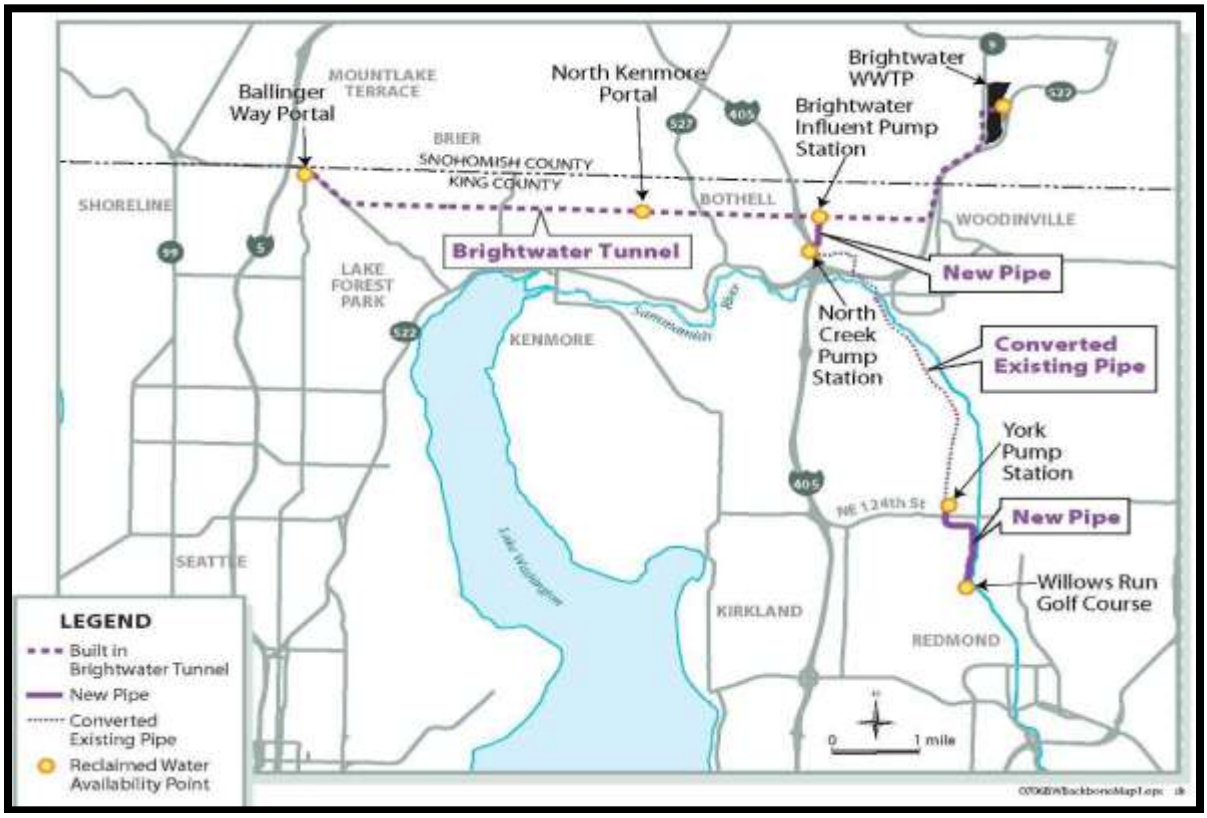
Reclaimed Water Economic Analysis Overview
North Seattle Project- Seattle Public Utilities

Over the past decade, SPU has engaged in several evaluations of providing reclaimed water as an alternative to its potable supply. None were implemented, however, because projects were either not cost-effective or not welcomed by the potential user.

With the Brightwater Treatment Plant, there is an opportunity for large volumes of reclaimed water to be distributed in the north part of the SPU service area. The Brightwater Reclaimed Water Backbone Project will be able to carry up to up to 9 million gallons per day (mgd) south to large non-potable water users in the Sammamish River valley, and about 12 mgd west to northern King County to the Ballinger Way portal. The Ballinger portal is at the very northern end of SPU's retail service area.



Knowing that King County is interested only in selling reclaimed water wholesale to potential retail distributors such as SPU, SPU conducted an economic analysis of the potential use and cost-effectiveness of distributing reclaimed water from the Brightwater portal to SPU customers in the north part of its retail service area. The analysis utilized a combination of the SPU asset management approach and WateReuse Foundation's framework for evaluating reclaimed water projects (the "Raucher" methodology).

There are several key components of the economic analysis.

1. A thorough investigation was conducted to determine a close estimate of potential use.
2. A reasonable effort was made to identify and quantify the potential environmental benefits from reclaimed water in urban watersheds, mountain watersheds and Puget Sound.

3. Alternatives to the project were identified that could provide similar benefits and were then compared to the project in terms of cost-effectiveness.
4. An analysis was conducted that examined who benefits from the project to provide information for assessing who should pay how much for the project.

Key Findings of the Report:

1. 50 potential customers with 1.7 mgd of potential use
2. Requires 27 miles of pipeline plus pumping facilities
3. $87 million initial capital improvements and $109 million total life-cycle costs.
4. Both the supply and environmental benefits of this project were determined to be minimal.
5. The greatest environmental benefit of this project is to Puget Sound, although it is small as well.
6. The alternative, which includes advanced treatment at the Renton treatment plant, would generate 11 times the benefit to Puget Sound for a ¼ of the North Seattle Project's cost.
7. Most of the project's potential benefits would be regional and not specific to Seattle's retail service area or the potential users of reclaimed water.

The analysis contains a recommendation that SPU not proceed with the North Seattle Reclaimed Water Project. Before recommending the alternative for implementation, however, a fuller analysis of the environmental problems facing the Puget Sound basin and the available alternatives for addressing them would have to be undertaken.

Messages on the Results:

1. It is important to have refined estimates of potential uses of reclaimed water to best reflect actual potential customer water use.
2. The North Seattle Reclaimed Water project is not a cost-effective means of achieving its identified benefits.
3. Constructing a system for distributing reclaimed water is what drives the cost of the project so high because there are few potential customers and they are geographically spread out.
4. There are other, more cost-effective, alternatives to solve the same problems that reclaimed water aims to address, with greater benefits.
5. Without mechanisms for funding by those who proportionately benefit from the project, those who don't benefit as much could be unfairly burdened with a share of the cost that exceeds the benefits they receive.
6. Examining alternatives to reclaimed water reveal important information for the region about water quality solutions for Puget Sound.

This report contains useful information to interested stakeholders as they examine policy and financial decisions about reclaimed water. While the rigorous analysis produced some very definitive results that are specific to the area studied, the methodology of the analysis can be used as a standard for other evaluations of reclaimed water. Further, the results indicate some important considerations in addressing water quality problems in Puget Sound.