



# Case Study

## Vancouver, WA cuts root control costs by half



Vancouver, Washington, was founded in 1857 and is part of the Portland-Vancouver metro area. It's a nice place to live; *Money* magazine has ranked it as one of America's top 100 cities. City of Vancouver Sewer Engineering Manager Eric Schadler is one of those responsible for helping to maintain the high quality of life here. Among other duties, he manages the approximately 750 miles of pipe making up the city's sewer network. "We have a good mix of pipe, including some hundred-year-old clay downtown, and a lot of jointed concrete pipe mains, 18-inches

and larger," he said. "When it comes to roots, the concrete gives us the most failures, but they're also a problem in clay. Several years ago, that caused some serious concerns, and that's when we started root foaming."

Vancouver relied on root control contractors for most of that period. But after gathering cost data from contracted projects, Schadler decided it made sense to look more closely at the use of city crews for root foaming. After conducting a six-month pilot test in 2015, with city crews using RootX's foaming chemical and FDU 300 applicator, he's concluded that Vancouver saves money when doing their own root control, with equal or better results, while maintaining more control over chemical use that can affect treatment plant performance.

### Pilot Test

Schadler said the city had two good reasons for considering doing their own root control work. "First, we wanted to see if we could do it more cost effectively," he explained. "It helped that we had good figures from root control contracts, in terms of costs and lineal feet treated. We also had good ways to measure quality of results, thanks to CCTV work in connection with the contract."

Control over chemical use was also an issue. "We are cautious about the effect of chemicals on our treatment plants, and we are protective of the environment. We rely on sludge-eating bacteria, and we noticed that sludge was not dissolving as we like during the contracted root control. It's hard to put a cost on that, but it's definitely a potential compliance issue." This concern was a key factor in selecting RootX®. "RootX® was the milder of the products we were considering. Not only was that better for our wastewater treatment plant, but it also eliminated some safety concerns that would have required additional staffing during root control work."

Initial costs were also a factor. The competing solution would have required an estimated \$46,000 jetter truck modification. "That would have made root control a little easier, and might have been more efficient long term," Schadler says. "But it was a lot to pay up front." By contrast, there is no equipment cost to apply RootX®; an applicator is required, but the company provides it at no charge, and training is minimal. With this in mind, the City chose RootX® for the pilot project.



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**Eric Schadler, Sewer Engineering Manager, City of Vancouver**

Root foaming was scheduled via the existing work order system, based on data from Vancouver’s CCTV program. One person was hired on a limited basis for the project, as a chemical specialist, and an existing maintenance worker now spends about 50 percent of time on root foaming. “We’ll probably never have a full time root foaming crew,” Schadler says. “But we probably will increase our root control so that a crew is busy on this 75 percent of the time.”

In an April 2015 memo titled, *Interim Root Foaming Analysis*, Schadler presented the following cost analysis of municipal root foaming compared to contracted root foaming (emphasis added).



### Background information

The City previously hired a contractor. They were able to root foam 90,000 lf of sewer lines at a cost of approximately \$100,000. They completed the work in 25 days, doing 3,600 lf per day. The City had additional costs such as 100% reTV completed lines and other prep work at a cost of \$60,000. **Total cost using the contractor was estimated at \$160,000.**



### Results (with RootX® use)

City work crews were able to root foam approximately 2,200 lf of sewer lines per day, which is almost one-third less than the previous experience using a contractor. Despite this, the City costs are still lower than they were when using a contractor. **The correlated cost for the City to treat 90,000 lf based on 2,200 lf per day would be approximately \$85,000.**

At this time, with all costs considered, Vancouver expects to save slightly less than 50% by doing in-house root control. “It’s been a good experience,” Schadler said. “Based on our experience, I would say that in-house root control is a program that most cities should definitely consider.”

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