



King County

Wastewater Treatment Division
Brightwater Operations Center
Department of Natural Resources and Parks
22505 State Route 9 Southeast
Woodinville, WA 98072-6010

August 12, 2009

Re: King County's Brightwater Treatment System
Tunnel Machine Repairs on 53rd Avenue NE in Lake Forest Park

Dear Resident or Property Owner:

This letter is to notify you that in late-August a contractor for King County Brightwater Treatment System will begin work in 53rd Ave Northeast near the alignment with Northeast 195th Street in Lake Forest Park. The purpose of this work is to support repairs on a tunnel boring machine that is located about 300 feet below ground in this vicinity. This location is near your property and is at about mid-point on Brightwater's four-mile tunnel drive between Kenmore and Shoreline.

This proposed work involves installing dewatering and monitoring wells with truck mounted drilling rigs. Once these well are constructed and operating, the pumps will continue to operate reducing pressures around the tunnel boring machine while repairs are made underground. The actual repair work will be accessed from our site in Kenmore and not from your neighborhood.

We realize that this work will generate impacts that may affect the immediate neighborhood, including construction noise and impacts to street access. We will work with you to try to minimize these disruptions and keep you informed about the project.

Attached is a fact sheet describing the project. We are also available to meet or talk with you by phone to provide you with further information about this upcoming construction.

Our community relations team will be on the job site and available throughout this work to keep you informed and answer your questions. We also have a 24-hour a day Brightwater construction hotline available to you at 206-205-5989 to address construction related concerns immediately.

To receive updates by email, please contact us at brightwater@kingcounty.gov to be added to our list. You can also contact us to receive phone or mail updates if you wish. Please feel free to contact me during business hours at 206-263-9453.

Sincerely,

David Freed
Community Relations Planner

Creating Resources from Wastewater

August 12, 2009

King County Brightwater construction in Lake Forest Park 53rd Avenue Northeast near Northeast 195th Street

One of the three tunnel boring machines being used to build the Brightwater Wastewater Treatment System is now stopped for repairs in your neighborhood—approximately 300 feet underground, just east of 53rd Avenue Northeast near Northeast 195th Street in Lake Forest Park.

In the coming weeks, workers need to begin repairs on the tunnel machine deep underground so it can complete the remaining portion of the tunnel drive between Kenmore and Shoreline. These repairs involve work at the front of the machine.

Because the soils around the tunnel machine contain groundwater, the work area at the front of the machine is pressurized to keep water and soil from entering. This means the workers are exposed to high pressures, similar to pressures experienced by deep sea divers. It also means that they can only work for short periods of time, making the repairs more difficult.

Prior to beginning repairs below ground, the contractor is proposing to first install dewatering wells from the surface and draw out water from around the front of the tunnel machine. This will enable crews to work under normal atmospheric conditions.

The proposed repair work will have these components:

- install dewatering and monitoring wells using truck-mounted drill rigs
- move the tunnel machine into position below ground just behind these wells within the right of way of 53rd Ave. Northeast near the Northeast 195th Street alignment (see attached map)
- begin dewatering and monitoring
- complete repairs deep underground on the tunnel machine

King County realizes that this dewatering work will have impacts to the surrounding neighborhood, including noise and traffic disruptions and is providing this information to you to help you understand our project. Community relations team members will be available to answer questions that neighbors may have and will provide periodic updates about work progress and schedule.

Wells and dewatering: The contractor will drill dewatering and monitoring wells that will be about 8 inches in diameter with pumps and instrumentation installed underground. Water drawn from the wells will be disposed of in the nearby sanitary sewer or discharged below-ground with state approval.

Once wells are in place and dewatering is complete, work will begin to repair the tunneling machine. Crews will access the machine from the tunnel entrance in Kenmore and not from the surface in the local neighborhood.

The current proposal is one that will have the fewest impacts. Other options—including ground freezing or repairing the machine from the surface—would cause far greater impacts to the surrounding community. Due to the machine’s current location and depth, repairing the machine in place from below ground is the best option.

No adverse or long-term surface or below ground impacts are expected. When repairs are done the wells will be removed in accordance with state guidelines and the work site fully restored.

When will work start, and how long will it take?

The contractor plans to begin preparations this month. One of the first activities neighbors will see is surveyors and other crews establishing the exact location where the work will take place. It will then take about eight weeks to drill and install the wells, which will be followed by dewatering from the surface. Dewatering will continue until repairs are completed to the tunnel boring machine deep underground.

Repairs to the tunnel machine should be completed by the end of the year. King County will continue to update neighbors on progress and the estimated time of completion.



What is involved in drilling the wells?

A truck-mounted drill rig and several support vehicles will be parked at the work site on 53rd Avenue Northeast (see attached map).

There is a possibility some overhead telephone and utility lines will need to be temporarily relocated in order to accommodate the drill rig. The contractor will work closely with neighbors in order to ensure minimal disruption to utility services during the project.

It may also be necessary to temporarily reroute traffic, modify driveway access and restrict parking along 53rd when the drill rig is operating.

As drilling takes place, soil cuttings and drilling material will be removed by truck for proper disposal at an off-site facility. We expect that construction hours will be in accordance with city permit approval.

What will people see at the surface?

For about eight weeks people will see a drill rig and support vehicles while the wells are being drilled. After this the wells and discharge pipes will be capped at the surface and covered with a metal plate. On the surface there will be pumps, a water tank, a back-up generator and fuel tank located in a secure area next to the roadway. The contractor will obtain a power line for the equipment so generators will only need to be used during power outages.

Will dewatering affect stream, wells, aquifers or water supplies?

Although the term “dewatering” is being used, what is actually intended is to depressurize the layer of silt and clay (called an aquitard) where the tunneling machine is located. This layer contains relatively low quantities of water and is not part of the local aquifer—the water-bearing layer that lies above this aquitard.

The county gathered geotechnical information during the environmental and design phases for this project. This work indicates that the layers where the dewatering wells will withdraw water have very limited hydraulic connection with the overlying aquifer. This means that that our activities will be localized to the immediate area surrounding the tunneling machine.

We expect little to no impacts to the groundwater levels in the overlying aquifer and no impacts to surface waters such as streams, creeks and lakes. Monitoring wells will be installed as part of this work and all dewatering will be continually monitored. We will also be monitoring aquifer groundwater levels in nearby wells installed in the geotechnical investigation borings.

Is there a danger of a sinkhole?

The activities at this site are very different than tunnel construction, which can result in sinkhole formation if the tunnel machine over excavates in sandy soil with little cover. Since none of these conditions exist, the dewatering activities will not cause a sinkhole to form.

.

24-hour construction information line available

For urgent construction-related issues or concerns, you can contact the 24-hour construction information line at 206-205-5989 (remember to dial 911 for emergencies).

For general questions and information, call 206-263-9453, or 711 for TTY access, or email us at: brightwater@kingcounty.gov. You can also call or email us to request regular updates on this work.

More information about Brightwater is available at <http://www.kingcounty.gov/brightwater>

