



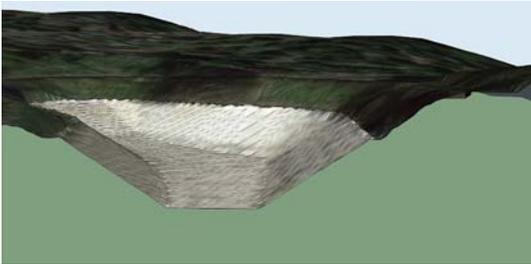
Washington Park Reservoir Improvement Project 2018

September News

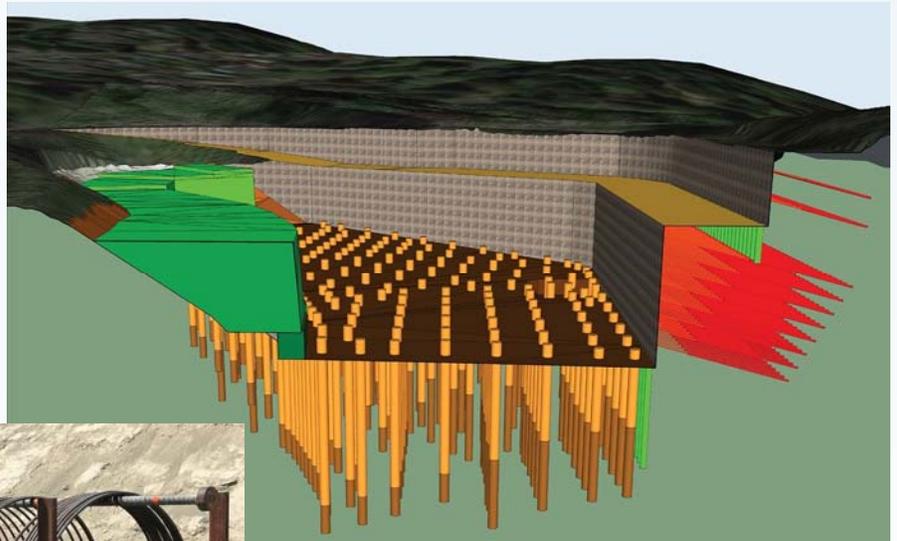
Exciting times as crews begin work on drilled shafts. On Sept. 10, crews began drilling the first shafts that will support and stabilize the new reservoir. There will be 176 shafts, some going down as deep as 100 feet. The shafts are represented in yellow/brown in the photo below. The brown portion is where the shafts are drilled into rock.

The first tower crane will be delivered on Sept. 24. This will require the **closure of Madison Trail and SW Sacajawea Boulevard** below Sherwood Boulevard for about week as the crane is assembled on-site. The crane, unlike the others being used on-site, will not move but will be anchored to a concrete base already constructed on top of lower retaining wall under SW Sacajawea Boulevard. The crane will be used to lift and lower materials and equipment.

Once the shafts are completed, the next step will be to begin pouring the large slab for the bottom of the new reservoir. Current work has been focused on reshaping and shoring up the site to stabilize the landslide area and make room to construct the actual reservoir.



The historic reservoir had angled walls with a narrow, flat bottom. The new reservoir will have vertical walls with a wide flat bottom.



The rebar cages (pictured to the left) are constructed by crews above ground and then lowered into the drilled shaft. Once in place concrete is poured to fill the shaft with the rebar cage providing reinforcement. Each rebar cage is built to the length needed for a particular shaft.

Tower crane arrives on Sept. 24. SW Sacajawea Blvd. closed for a week.

Forest to Faucet

The Portland Water Bureau provides the highest quality water, customer service, and stewardship of the critical infrastructure, fiscal, and natural resources entrusted to our care. We enhance public health and safety and contribute to the economic viability and livability of the Portland metropolitan region. We are a recognized leader among water service agencies across the country.



Gatehouse 3 getting ready for a shotcrete layer to be added to the walls.



Rebar, a standard element used to strengthen concrete in structures, has evolved over the years, as well as how it's used. The three examples on the left (above photo) have been harvested while demolishing the historic structure. Rebar was used very sparingly during that construction, often spaced feet apart. To the right is an example of the rebar in use for this project, spaced only inches apart. We receive and store a lot of rebar and use it everywhere.



The lower reservoir is being used as a fabrication site to assemble equipment and build rebar cages. Rebar cages will re-enforce the 176 drilled shafts.



Demolishing the last of the original concrete liner from the historic reservoir. You probably won't find too



Multiple wall sections covered with shotcrete.

Shotcrete, blown concrete, being applied to the lower retaining wall under SW Sacajawea Boulevard. Work will continue until the entire wall is covered.





Drilling rig assembled and ready to start drilling 176 shafts, some of them up to 100 feet deep.



Pictured above is a luffing boom crane, the type that will be erected on-site this month. This type of crane was chosen for this site because the boom can be moved, stowed and operated while extended or in an upward direction. This allows the operator to avoid the surrounding trees.



A crew had to widen Murray Road in preparation to move a crane from the lower reservoir area up to the new reservoir site. The crane has a top speed of .9 miles per hour. It will take more than 8 hours to move it into the new location. Once there, it will assist in the off loading of the tower crane and its assembly on-site.



Circled area is where the tower crane will be mounted and erected.



Madison Trail work.

The yellow drilling rig will drill shafts down to depths of 100+ feet. Then the crane will lower a rebar cage into the shaft.



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A Reliable Future

The Portland Water Bureau is building a new 12.4-million gallon, seismically reinforced underground reservoir within the footprint of the former Reservoir 3 (upper) with a reflection pool on top, while retaining the historic look and feel of the original. The new reservoir has been engineered to withstand ongoing landside encroachment and potentially catastrophic effects of a major earthquake.

The new reservoir will supply water to Portland's west side and serve 360,000 people, including all downtown businesses and residents, 20 schools, five hospital complexes, and more than 60 parks. This system of water conveyance and storage makes Portland a livable and thriving community, ensuring public health and economic viability.



Rendering of Lowland Habitat Area (former Res 4)

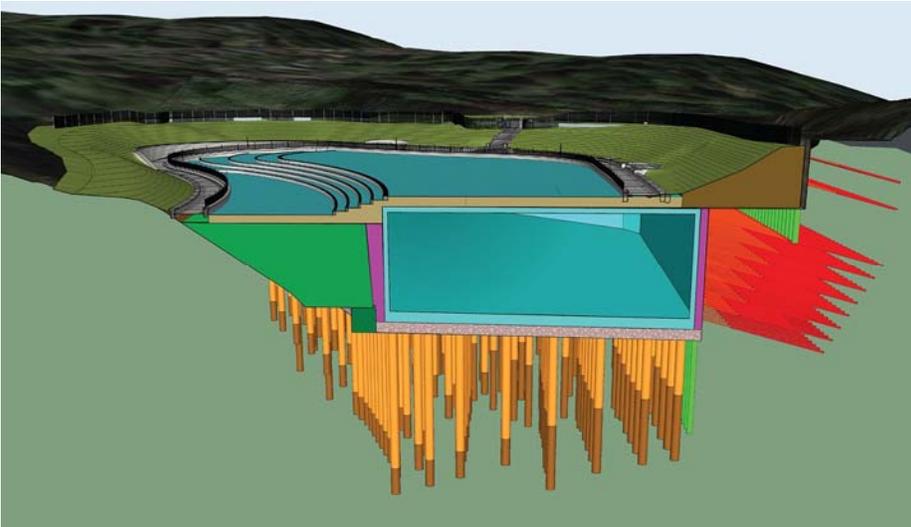


Rendering of aboveground Water Feature (former Res 3)

The first phase of construction has focused on reshaping the site: removing unneeded structures and materials, stabilizing the hillside, building shoring walls, and installing and replacing utilities.



Another unique look at rebar, the end of a rebar cage.



Coming Attractions

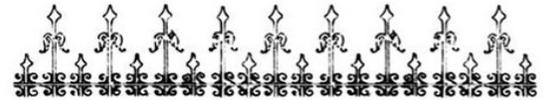
Over the next year, you can expect several changes to occur in the activity around the construction site.

- There will be intermittent traffic delays on SW Sherwood and SW Sacajawea.
- SW Sacajawea Blvd. will be closed for about a week beginning Sept. 24.
- Community site tours return in spring 2019. Watch for dates in email updates and on the webpage: www.portlandoregon.gov/water/wpreservoirs
- Virtual tour is online at the project webpage: www.portlandoregon.gov/water/wpreservoirs

Interesting Facts

This project will use:

- 3,000 truckloads of concrete
- 35,000 truckloads of soil
- 7.4 million pounds of rebar



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