

### Durham Advanced Wastewater Treatment Facility



Durham Advanced Wastewater Treatment Facility is a nationally acclaimed, state-of-the-art facility, serving Washington County residents in the cities of Beaverton, Durham, King City, Sherwood, Tigard, and Tualatin, and small portions of southwest Portland and Lake Oswego.

The facility, located in Tigard near Cook Park and Tigard High School, cleans an average of 26 million gallons of wastewater per day to among the highest safety and quality standards in the nation. Through innovative, advanced technology and processes, wastewater collected from homes and industry is cleaned and returned to Washington County's only river – the Tualatin, actually enhancing the health of the river. Cleaned wastewater is also used for local irrigation, and natural byproducts of the treatment process are converted to electricity, heat, and used

as soil amendments at local sites and throughout the state.

The Durham Facility provides advanced wastewater treatment, also known as tertiary treatment, exceeding the treatment level of 98 percent of wastewater facilities in the United States. In 2009, the first commercial nutrient recovery facility in the nation was built at Durham through a partnership with Ostara Nutrient Recovery Technologies in Canada. The facility captures 80% of the phosphorus from the wastewater stream and converts it into a premium, slow release fertilizer used on turfs and nurseries throughout the northwest and elsewhere.

The Durham Advanced Wastewater Treatment Facility began operations in 1976 to reverse decades of severe water pollution in the Tualatin River and its tributaries, and to meet the

demands of a growing population. The facility centralized a scattered system of 14 inefficient wastewater treatment plants, creating one of the most efficient and advanced facilities in the world.

- Provides a higher level of treatment than 98 percent of the facilities in the nation
- Must meet nearly 1,000 strict permit conditions, including monthly, weekly and daily limits established to protect the Tualatin River
- Serves a population of approximately 210,000 and growing
- Cleans an average of 26 million gallons of wastewater per day
- Recycles more than 50 million gallons a year of cleaned wastewater for local irrigation
- Recycles more than 14 dry tons of biosolids daily for use as a soil amendment
- Produces up to 500 tons of Crystal Green<sup>®</sup>, a commercial, high value fertilizer
- Generates more than 4 million kilowatts-hours of power per year by reuse of methane gas, a treatment byproduct (enough to power 330 homes per year)

### Durham Facility: Proposed site development

Since opening in 1976, Clean Water Services Durham Facility has been under nearly continual expansion and upgrades to keep pace with the community's growth, meet increasingly stringent state and federal pollution control standards and to ensure adequate and reliable infrastructure to support our region's economic development. Clean Water Services is committed to working with our neighbors, host community and the region to ensure future expansions and upgrades continue to deliver value for the river and our ratepayers.

Clean Water Services has carefully evaluated the intermediate and long-term infrastructure needs of the basin to ensure future investments meet the needs of the growing community and the river. CWS' proposed 2025 and build-out improvements are fully contained within the existing property footprint while expanding screening, buffers and retaining the park-like entrance along Durham Road. Proposed improvements include:

#### Intermediate Term (2025)

- Upgrade solids handling facilities
- Install 400 kW solar array,
- Upgrade odor control facilities
- Construct new 1.7 mW cogeneration and grease handling facilities
- Construct improvements to Headworks structure
- Construct new tertiary treatment clarifier and upgrade of existing facilities
- Replace Treatment Plant Services Building
- Expansion of digestion facilities

#### Long Term (2025 to build out)

- Upgrade and expansion of treatment works including construction of additional primary, secondary, and tertiary clarifiers; aeration basins; and digester
- Expansion of Headworks facility and Primary Effluent Pump Station
- Construct new O&M Building at location of new Treatment Plant Services Building
- Construct secondary treatment expansion to accommodate anticipated new plant discharge requirements (regulation changes)
- Construct solids handling expansion to accommodate evolving regulatory requirement

### Award-winning Facility

- 2009 – U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver certification for new Influent Pump Station
- 2006 – PNCWA / Oregon Outstanding Reuse Customer Award.
- 2005 - U.S. EPA National Clean Water Act Recognition Award for the best operated and maintained large, advanced treatment facility in the nation.
- 2004 – U.S. EPA Lower Columbia Section Plant of the Year Award.
- National Association of Clean Water Agencies (NACWA) Gold Award for 100% permit compliance 8 times since 1995

