

Point Defiance Stormwater Treatment Facility

City of Tacoma/Metro Parks Tacoma



Facility type Provides stormwater treatment and visual interest in a park

Construction date 2015

Facility size 5,500 square feet

Drainage basin area 754 acres, 8 million gallons per day

Facility description

This facility, on a steep slope at the northeast entrance of Point Defiance Park, treats stormwater from the basin uphill before dispersing it into Puget Sound. It consists of a series of cascade pools, troughs, and treatment cells with proprietary media and an underdrain system. The facility discharges treated water into a bioswale and then Puget Sound.

The facility is a six-pool waterfall that provides visual interest to the entrance of the park. It is not open to the public but can be seen from all sides.

The project started with Tacoma Parks talking to the city about the area's undersized outfalls. The two agencies partnered and brought in Tacoma Public Schools. The partners agreed on three main goals for the project: treat as much stormwater as possible, make it attractive, and provide a learning opportunity for students. The city upsized the outfall and Tacoma Parks provided the land for the facility, which treats stormwater for the entire 754-acre basin. It is used as a lab for students to learn about stormwater.

Departments involved Tacoma Public Utilities, Metro Tacoma Parks, Tacoma Public Schools

Contractors Parametrix (Design Engineer), Site Workshop (Landscape Architect), Ceccanti Inc. (General Contractor), Oldcastle Precast (Precast Concrete), Contech Engineered Solutions (Manufacturer)

Public engagement

Tacoma Parks led the public outreach in coordination with other park improvements.

Maintenance and monitoring

Tacoma Public Works maintains the treatment facility and Tacoma Parks maintains the irrigation and landscaping.

Challenges and lessons learned

- ILAs can help address issues when multiple partners are involved, especially for maintenance.
- Having goals for the project can help guide it and keep it moving forward.
- Adding regional stormwater facilities to parks is a good way to provide large-scale stormwater treatment. Work with the parks department for opportunities to plan retrofits into future park renovation projects.
- A funding strategy for regional facilities is to charge development projects in the basin a fee in lieu of constructing onsite stormwater management.
- The parks board provided valuable insights on issues to address, such as safety and siting.
- Think about maintenance early, incorporating maintenance considerations into design can make ongoing maintenance easier.
- Having flexibility in the design can enable the facility to treat a larger area.

Cost \$2,464,600

Funding sources Tacoma Surface Water Management, Metro Parks Tacoma, Washington State Department of Ecology

For further information Dana de Leon (ddeleon@cityoftacoma.org), Principal Engineer, City of Tacoma Environmental Services

Additional information

- City of Tacoma project description: https://www.cityoftacoma.org/government/city_departments/environmentalservices/surface_water/green_stormwater_infrastructure_gsi/gsi_projects/point_defiance_regional_stormwater_treatment_facil
- Tacoma Parks description: <https://www.metroparkstacoma.org/project/stormwater-treatment-facility/>

