STREET WASTE
Decant Facility

CITY OF WEST RICHLAND

In the arid climate of Eastern Washington, rainfall is infrequent.

When it does rain, the runoff typically contains a high concentration of pollutants that have built up on roadways during the weeks and sometimes month-long dry periods between rainstorms. Therefore, removing these pollutants from the roadways with regular street sweeping is a key strategy for stormwater management in Eastern Washington. Street sweeping improves the water quality of the stormwater runoff by dealing with these solids in a dry form which is much less expensive than removing them from runoff via stormwater treatment. Cleaner stormwater means higher quality water in the critical rivers and streams of Eastern Washington. Our water is our lifeblood, and the quality of that water is paramount for fish and humans. West Richland's forward thinking with regard to water quality was the catalyst for this important project.

One major hindrance to the street sweeping efficiency in West Richland has been the lack of a facility to handle the solid waste. The street sweepers and eductor trucks require a relatively large area for maneuvering and locations to empty and clean the trucks. Large spaces are required to allow the solid waste to dry out, be properly tested for contaminants, and be stockpiled for future reuse. In 2014, the City of West Richland partnered with the Washington State Department of Ecology on the design and construction of a new Street Waste Facility to improve the efficiency of the street sweeping operation. J-U-B Engineers, Inc. designed the facility which consists of six different docks for unloading and processing of street waste from street sweepers and eductor trucks. Cast-in-place concrete was the building material selected for four of the docks in order to provide the strength necessary for turning movements of the large equipment as well as a smooth surface for handling the waste and cleaning. Pre-cast concrete structures were also used for catch basins, a clarifier, and a lift station sump. The cast-in-place concrete retaining walls facilitate handling the material and provide separation between piles.

IACC was instrumental in educating the City and J-U-B about the various funding options for this project as well as providing information on how to develop a winning funding application. J-U-B assisted the City in securing storm water grant funding from the **Washington Department of Ecology** for construction of the $1.1 million dollar facility. The State grant covered 75% of the construction cost for this facility. The facility was constructed by Tapani, Inc. in 2015.

The new Street Waste Facility provides ample room for maneuvering of the large vehicles and recessed docks to facilitate the unloading and cleaning. Decanted stormwater is collected in an underground collection system where it receives clarification and is then pumped into the headworks of the City's Wastewater Treatment Plant for further treatment. **Five of the six bays are designated for street sweeper or eductor waste including "hot loads" of potentially contaminated waste. The sixth bay is dedicated to contaminants collected in the clarifier, which are periodically cleaned out.** The sixth bay takes advantage of the hot summer months of West Richland to evaporate water and hold the contaminants collected from the clarifier. Once the solid waste has been properly tested, it can be reused as fill material on various City projects. This facility will greatly improve the efficiency of operations and is expected to allow the City to nearly double the amount of curb-miles swept each year.

COMPLETED FACILITY

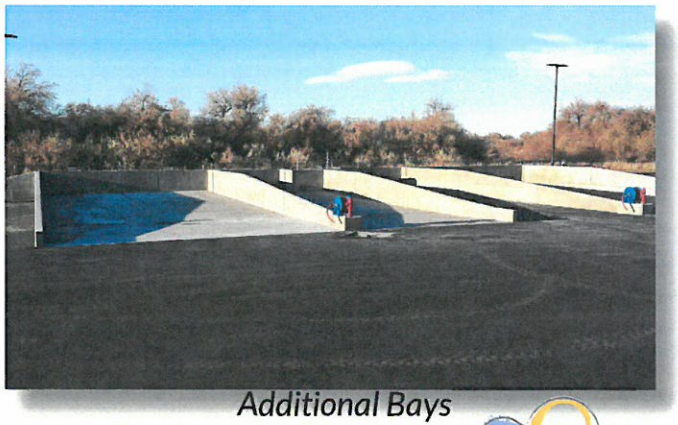
The chosen location of the new facility at the City's Wastewater Treatment Plant allows the decant wastewater to be treated at the Wastewater Treatment Plant prior to discharge to the environment. This resourcefulness allowed the City to utilize an existing asset (the Wastewater Treatment Plant) for treatment of the decant wastewater prior to release into the environment. **One design and construction challenge was dealing with shallow groundwater at the facility.** A grading plan was required to locate the facility out of groundwater impacts, and site dewatering was required during construction. The imported soil used for the mass grading project came from a nearby Port of Benton stockpile. The Port was appreciative to have the stockpile put to good use and prepare the unused parcel for economic development.

CONSTRUCTION

Before Construction

During construction

Bays



Additional Bays

PARTNERS

The City received a DOH solid waste permit in 2016 and began operating the facility in the summer of 2016.

This project is an excellent example of a partnership between the City of West Richland and the Washington State Departments of Ecology and Health improving water quality and solid waste handling in Eastern Washington as well as the quality of life for residents and street sweeper operators alike.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

September 14, 2016

IACC
sent by email dmullins@westrichland.org

RE: 2016 IACC Outstanding Achievement in Infrastructure – Solid Waste Category Letter of Recommendation, City of West Richland Street Waste Facility Project

Dear Sir:

Please accept this letter of recommendation for the City of West Richland (City) Street Waste Facility Project.

A Department of Ecology (Ecology) Stormwater Financial Assistance Grant Design and Construction partially paid for design and construction of the subject project. I was the Ecology engineer responsible for reviewing and accepting the Design Report and final design package produced by the City as eligible for funding.

The project provides the City (and others) to dispose of material removed from the stormwater collection system and swept from the streets in an efficient manner that utilizes existing land on the wastewater treatment plant site. This allows the city to clean the stormwater collection system more efficiently and to clean more lineal feet of street, pipelines, and catch basins annually than they were previously able to do. In addition, the Street Waste Facility is located next to the wastewater treatment plant and does not cause additional disruption to City residents.

The project meets all Ecology grant and stormwater requirements. Working with the City, and their consultant, was a pleasure. Their ideas on how to utilize the available land most efficiently and how to direct decanted water to the wastewater treatment plant while still maintaining the necessary stormwater controls are included in the final project.

With this project, and other grant projects, the relationship between the City of West Richland and Ecology has become mutually enjoyable. At Ecology, we fully expect to continue this relationship with future grants for more stormwater design and construction projects.

Sincerely,

Douglas C. Howie, P.E.
Senior Stormwater Engineer
Washington State Department of Ecology
(360) 407-6444
douglas.howie@ecy.wa.gov