

STORMWATER MANAGEMENT STANDARD 4. Water Quality Volume Statement

Standard 4 requires the development and implementation of suitable practices for source control and pollution prevention. These measures should be identified in the long-term pollution prevention plan. This may be accomplished through the use of:

- Environmentally Sensitive Site Design
- Good Housekeeping
- Source Controls
- Stormwater BMPs
- Effective Operation & Management

The goal of this Standard is to estimate the proposed condition Total Suspended Solids (“TSS”) Removal of the Treatment Trains and O&M procedures with the completed project.

All of the above practices are involved for compliance to the extent practicable with this Standard. The Applicant is proposing removal of 1.2 Acres of impervious surfaces that are not critical to continued operations.

Stormwater BMPs are selected based upon guidance in the Stormwater Management Guidelines for Land Uses with higher Potential Pollutant Loads (LUHPPL). These consist of periodic parking area sweeping and good housekeeping practices; Pretreatment at catch basins; Oil-Water Separators; and Infiltration Basins prior to discharge. Discharges are near critical areas as defined in the Stormwater Management Regulations, therefore, the 1-inch rule is applicable.

Using the simplest calculation to be conservative, with 486,552 SF of Impervious area yields;
Water Quality Volume = 486,552 SF X 1/12 = 40,546 CF

Operation & Maintenance procedures are included as part on-going operations at the site.

A portion of the existing truck parking area includes Oil-Water Separators and subsurface infiltration systems for a portion of the runoff from that area. Two infiltration areas (80’X32’) area in place with a total area of 5,120 SF (based on record drawings), with an overflow discharge to the cross culvert that conveys runoff from State property to the wetlands/stream system on the project site.

The proposed structural BMP improvements include gas traps for all catch basins on-site; additional 5000-gallon Oil-Water Separators in an off-line installation as preferred by Stormwater guidelines; and three proposed infiltration basins to promote groundwater recharge prior to surface discharge.

Additionally, a 4,000-gallon collection tank removes spills and drippings off trucks from the refueling area. The drainage area reduction is 4,592 SF in terms of water quality. Roof Area for the canopy as well as roof area (13,902 SF) for the new building is considered “clean” by Stormwater Standards as roof runoff is not likely to come into contact with petroleum by-products.

From the previous calculation for Recharge Volume, the Volume available in Proposed Infiltration Basins (Below Outlet) = 20,177 CF. If the existing system is considered in the Truck Parking Area with only the equivalent of 12” of storage, this equates to an additional 5120 CF.

Existing and Proposed Infiltration Systems = 25,297 CF (approximately)

This volume is a “static” volume, meaning this is total dry storage, with no accounting for the stormwater volume infiltrated while the infiltration facilities are filling, meaning that when the structures are full, more stormwater has entered the facility than is stored.

If we consider the storage capacity within the oil-water separators, estimating both the existing and proposed tanks yields 8,245 CF, yields 33,542 CF of storage.

The Applicant has:

- Reduced impervious area significantly (1.2 acres of pavement)
- Proposed Gas Traps in all existing and proposed catch basins to enhance treatment
- Overall Stormwater generated over the entire site is reduced
- Treatment of stormwater is substantially improved through structural BMPs and O&M practices

Considerations:

- Water Quality Treatment devices are reasonably sized for the proposed use and increase treatment while reducing impervious area at the project site.
- No allowance is considered for infiltrated runoff dissipated as groundwater recharge “during the storm”
- Stormwater with high potential to be in contact with fueling operations (beneath fueling canopy) is collected in a no-discharge tank for periodic removal from the site.

Therefore, the Proposed system is reasonable for the proposed project site, and the proposed treatment trains provide a substantial improvement over the existing conditions as stated in the Stormwater Management Standards when considering a “Redevelopment” project. This project meets the test to be considered a redevelopment project within the meaning of the Stormwater Management Requirements, and therefore meets this standard to the extent practicable.