

EXECUTIVE SUMMARY

The Department of Ecology's Technical Resources for Engineering Efficiency (TREE) team worked with Chemco to identify ways to increase their compliance with their stormwater discharge permit. Since October 1999, some of Chemco's stormwater effluent samples have exceeded their permitted limit for total chromium, total copper, or pH.

As stormwater falls onto and flows across the property, it comes in contact with low pH air emissions, debris, and treated wood. At TREE's request, Chemco collected and tested water and sediment samples from 17 locations around the facility to help identify point sources of contamination. TREE reviewed the sample analyses.

Testing Results

- pH of all liquid samples
 - 85% of the samples had a pH less than 6.6
 - 29% of the samples had a pH less than 4.0
 - As the pH decreases, metal contaminants tend to become more dissolved.
- Point source contamination: The water sample from catch basin 13 contained higher metal concentrations than the other basins. The water sample from catch basin 4 had high total suspended solids and hardness.
- Water into the storm drain
 - Total copper peaked at 0.41 mg/L with an average of 0.12 mg/L
 - Total chromium peaked at 0.41 mg/L with an average of 0.11 mg/L
- Groundwater: The water flowing from the ditch along the east side of the property contained less than 0.010 mg/L of both copper and chromium.
- Pond inflow: The inflows to the west pond contain a lower concentration of metals compared to the inflows to the east pond.
- East Pond: The chromium concentration in the east pond influent is lower than the concentration of the effluent.

Recommendations

Based on the sampling results, TREE developed 24 tasks and best management practices to help decrease stormwater effluent contamination. The team believes the following five recommendations will help the most, with the least cost.

- Increase the frequency of sweeping in areas where treated wood is stored
- Cover and elevate a greater percentage of the CCA and fire-retardant-treated wood surfaces (top and sides)
- Investigate potential leaking of contamination from the dumpster at the south end of the facility
- Install aeration in Pond 2 to encourage vegetation and neutralize pH
- Increase frequency of changing out catch basin socks and removing sediment from bottom of the basins