



SuperAll® Application Case Study: **City of Tilden Wastewater Lift Station Treatment**

Summary:

The city of Tilden had been experiencing several problems all associated with one of its lift stations. The lift station was experiencing high levels of Fats, Oils & Grease (FOG) accumulation, severe odor problems, and periodic issues where the outflowing water would become toxic to the microbial life causing an anaerobic condition. This anaerobic condition resulted in high levels of ammonia and nitrogen at the Wastewater Treatment Plant (WWTP). The levels of FOG were so high that large chunks of solidified FOG were collecting on the walls and pipes, floating freely in the lift station and being pumped out to the aeration basin of the WWTP. These levels of FOG resulted in extremely unpleasant odors being emitted from the lift station into the surrounding community leading to complaints from residents within 100 yards of the lift station. The periodic anaerobic condition is believed to be a result of illegal dumping of toxic substances into the system. Due to SuperAll Environmental having a long history of success eliminating hydrocarbon odors, and biodegrading hydrocarbon waste, the Product **SuperAll® #38** was chosen as a possible solution.



Background:

The city tried several approaches to manage its lift station issues. The large chunks of FOG were removed from both the lift station and the aeration basin, then disposed of in a land fill. Since removing the free floating FOG had no effect on the odor, deodorant blocks were hung in attempt to mask the smell. Since these management techniques didn't achieve the desired results a product consisting of microbes and enzymes was applied to the lift station in an attempt to aid in breaking down the FOG and resulting odor. This product delivered no noticeable decrease in FOG or odor.

SuperAll® #38 Treatment:

Since the application of **SuperAll® #38** to the lift station was going to be experimental, and used at first only on a trial basis, a cost effective means to accurately dose the product was necessary. SuperAll Environmental's in house dosing system the ExactaDose™ was chosen due its availability, ease of setup & use and accurate dosing. Since the ExactaDose doesn't require any form of energy other than pressurized water, installation of the system took less than an hour. Due to the severity of the FOG issue it was decided to start the application of **SuperAll® #38** at higher rate and then adjust the injection rate back as result were achieved. Before beginning application of **SuperAll®**



#38 the lift station was pressure washed using SuperAll® #38 to remove some of the built up FOG. After that the ExactaDose was set to inject SuperAll® #38 into the lift station at 40 ppm. With ~40,000 gallons per day flowing through the lift station this equaled 1.6 gallons per day of SuperAll® #38. Within a couple of days the smell had been reduced dramatically. At the end of one week the smell was almost completely gone and the free FOG was barely visible. The ExactaDose was slowed to an injection rate of 20 ppm (.8 gallons per day) and kept here for five more weeks. During this time the smell was gone, the FOG was kept to a barely visible level, the inflow of FOG chunks to the aeration basin was eliminated and the elevated ammonia and nitrogen levels from the periodic anaerobic condition were never seen.

Conclusion:

SuperAll® #38 was effective at eliminating all the issues the city of Tilden was experiencing with their lift station. At the end of the one and a half month trial the city of Tilden decided to purchase an ExactaDose system and put the lift station on a permanent maintenance dose of 20 ppm. SuperAll® #38's breaks down hydrocarbon molecules into a stable solution of microscopic particles making the hydrocarbon readily available to microorganisms, effectively preconditioning the FOG to be degraded by the WWTP. A byproduct of this breakdown is the elimination of hydrocarbon off gassing therefore eliminating unpleasant odors. WWTP operators have been amazed by how clean the lift station has stayed by only a maintenance dose of SuperAll® #38.

