

Project: Wastewater Treatment System
Design and Installation of Bioreactors

Date: Installation 2001 to 2008

Installation: 8 Hours

Contaminants: Hydrogen Sulfide Gas and Petroleum Products

Project Description:

Lambda was hired to upgrade a wastewater treatment plant because their present system, consisting of a soil-water separator, was no longer capable of meeting their discharge permit to the sanitary sewer system. Lambda was asked to design bioreactors as a supplemental component to the system. These were placed in the sump and in the oil-water separator. The bioreactor consisted of two stainless steel baskets of bioreactor material and liquid microbes injected directly into the system.

Semi-degraded petroleum products were producing hydrogen sulfide gas and Lambda was asked to address this problem as well. Lambda developed a new process that would continue the degradation of the hydrogen sulfide by means of a microbial ecosystem. A consortium designed by Lambda, was sprayed into the sump and added to the chelating and BTEX degrading components. Two hundred gallons were sprayed into the system and Biocarb™ bags were placed into 12 of the coalescers, sump, and holding tank. In addition, Lambda designed and installed three polishing tanks with charcoal-packed columns soaked with biological consortia.

Lambda performed quarterly monitoring of the effectiveness of the system from 2001 – 2008 when management changed hands and LBSI services were terminated. During this seven year period, the site remained in compliance.

