

CITY OF MANDEVILLE

Mandeville Wastewater Expansion and Nutrient Assimilation Project

Mandeville, Louisiana



from top: Constructed wetland with trickling filters; Treated effluent used for land application in a cypress forest

The City of Mandeville is located on the North Shore of Lake Ponchartrain, North of New Orleans. The existing wastewater facility consisted of a three cell aerated lagoon and constructed wetlands. This system, with a dry weather flow of 1.0 Million Gallons Per Day (MGD), would work well most of the year, but was periodically out of compliance for ammonia spikes. After assessment it was determined that storm event contributions would increase flow to 9.0 MGD.

Biohabitats designed and permitted an upgrade to the existing system to 2.0 MGD by adding a stormwater diversion system, improved aeration, and a gravel trickling filter. Treated water is discharged through an irrigation system

into a cypress forest near the site. The design utilizes treated effluent as a resource for the restoration of the surrounding site. Competing proposals recommended activated sludge systems with price tags almost six times the cost of Biohabitats' solution.

In addition to the basic improvements, an on-line monitoring system, which included a fiber optic network, was added for remote and onsite monitoring. On-line monitoring data includes ammonia, nitrate, dissolved oxygen, Oxidation-Reduction Potential (ORP), and operational status of all pumps and aeration equipment. The system has been in compliance since installation and improvements were finalized. Additionally, the infrastructure has survived the radical storm events present in the region, including Hurricane Katrina.

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