



MRCE provided geotechnical engineering services for a 1986 plant expansion.

Bissell Point Waste Water Treatment Plant

St. Louis, MO

The Bissell Point Plant is the largest wastewater treatment facility in Missouri. The Bissell Point Watershed consists of an 81.4 square mile area served by 1,300 miles of combined and separate sanitary sewers. The system serves the St. Louis downtown business district, the northern industrial area, and the residential areas in the northern part of the city and county, and it discharges into the Mississippi River.

In 1986, the facilities were expanded to provide for third order treatment of effluent before discharge. The billion dollar construction program required a 25 acre expansion of the plant facilities. An approximately 4000-foot-long cutoff wall was installed around the site to permit excavation for 20 structures and to provide a permanent barrier to resist seepage pressure under structures. The site was bordered by the Mississippi River, existing structures and streets. Excavation with conventional sheeting and dewatering was considered impractical to construct the new facilities.

MRCE provided geotechnical engineering for laboratory tests on soil bentonite mixtures and participation in the development of soil bentonite and cement bentonite mixtures for hydraulic cutoff wall. MRCE designed and inspected the soil bentonite slurry trench and reinforced concrete wall systems which were keyed into limestone at depths varying between 40' and 60'. Reinforced concrete walls and permanent tieback anchors in rock were designed and inspected by MRCE for protection of adjacent high voltage electrical transmission towers.