



# MSD

MORRIS FORMAN  
WASTEWATER TREATMENT PLANT  
FACT SHEET — JUNE 2000

- The largest municipal wastewater treatment plant in Kentucky, MSD's Morris Forman Wastewater Treatment Plant began serving Louisville in 1958.
- The plant's location on the Ohio River at Algonquin Parkway is at lower elevation than much of Louisville and the river. That made it a logical site for the plant, because major sewer lines flow by gravity to the treatment plant. It also is down river from Louisville Water Company intakes that collect water for the public drinking supply.
- Although Louisville and Jefferson County's first underground sewers were built before 1850, there was no wastewater treatment. Sewer lines dumped wastewater directly into the Ohio River, Beargrass Creek and other area streams until the Morris Forman plant began operation in 1958.
- The Morris Forman plant treats an average of 114 million gallons of wastewater from homes and businesses every day. About 80 percent of all wastewater generated in Louisville and Jefferson County flows to the Morris Forman plant in gravity sewers. That means when about 495,000 people in northern, western and central Jefferson County flush toilets, do laundry or shower, wastewater sent down their drains flows by gravity to the Morris Forman plant.
- At first, the Morris Forman plant provided only primary treatment of wastewater. Raw wastewater enters the plant through bar screens and passes through a grit channel, removing most of the non-organic solids (like bottles, cans and rags) which are disposed at a commercial landfill. Wastewater then passes into giant sedimentation tanks where organic biosolids settle. The solids form a sludge, which is transferred to storage tanks.
- Secondary wastewater treatment was added in 1976, which uses bacteria to digest solids, reducing the amount of waste disposed at a landfill. Secondary treatment of wastewater also aids the disinfection process that brings the wastewater up to federal standards for discharge into the Ohio River. (*see chart*)
- To disinfect wastewater at the Morris Forman plant, MSD uses liquid sodium hypochlorite, a bleach that's double the strength of regular household bleach. Previously elemental liquid chlorine, which can be hazardous in large quantities, had been used in the process.

- Since 1958, several methods to handle sediment sludge (or biosolids) filtered from wastewater during treatment have been tried at the Morris Forman plant. Incinerators used briefly in the late 1970s failed to meet air-quality standards. That left landfill disposal as the best option for solids disposal.
- A \$30 million upgrade at the plant in the mid-1970s included installing low-pressure oxidation Zimpro equipment, which conditions and dewater solids left from the wastewater treatment process before they are disposed. Although considered state-of-the-art in solids handling at the time, Zimpro created a foul odor. Cities across the U.S. have been taking Zimpro systems out of service.
- In April 2000, MSD's Board approved a \$64.6 million contract to design and construct a new solids processing system that will significantly reduce odors at the Morris Forman plant. The new process will dewater and dry solids in an enclosed building. An anaerobic digestion process will reduce the volume of solids and produce methane gas to fuel the dryers used in the treatment process.
- Dried solids may be used as a fertilizer, which other sewer districts in the U.S. have successfully done, or recycled in other ways.
- The new solids handling process should be in place by late 2002 and is expected to virtually eliminate major odors from the plant, while saving MSD more than \$4 million in annual operations and maintenance costs.
- The Morris Forman plant is not a source for hazardous air pollutants according to US EPA criteria.
- Created in 1946, MSD's primary job is providing sanitary sewer and drainage service for more than 200,000 residential, commercial and industrial customer accounts throughout Louisville and Jefferson County.

