

The Wastewater Treatment Process at the Lower Poplar Plant

Preliminary treatment at the Lower Poplar Plant entails the removal of larger solids and grit out of the wastewater through a process involving four bar screens and two grit chambers.

During the primary treatment of wastewater, the flow is slowed down to allow solids to settle and be removed from the water and pumped as sludge to the digesters for further treatment through the use of two circular primary clarifiers.

After the wastewater leaves the primary clarifiers, it enters the secondary treatment stage. The MWA's advanced secondary treatment of wastewater utilizes a coupled filter tower/activated sludge process, as part of an advanced biological secondary treatment system.

The wastewater leaving the two coupled filter towers and four aeration basins enters three final clarifiers. The purpose of the final clarifiers is to settle the sludge and return (wastewater) back to the aeration basins. The treated effluent wastewater from the final clarifiers is disinfected with chlorination and de-chlorination prior to disposal into the Ocmulgee River. In doing so, the treated wastewater is safe and approved for disposal into this receiving stream, according to provisions of the Authority's regulated permits for this form of direct discharge into a water body.

Proper handling of Biosolids at the Lower Poplar Plant

Periodically, a certain percentage of sludge has to be wasted when coming out of the activated sludge system. The waste sludge from the final clarifiers, along with the sludge from the primary clarifiers, is pumped to gravity thickeners. The purpose of the gravity thickeners is to thicken the sludge in order to avoid excess water from entering the digesters.

The sludge from the gravity thickeners is pumped into the primary digesters. After proper digestion, the sludge is sent to secondary digesters. The purpose of these secondary digesters is to separate any excess water from the sludge and hold it prior to sludge dewatering. The sludge dewatering process involves the use of belt filter presses. During this process, the liquid sludge is converted to solid sludge – called biosolids – after exiting the belt filter presses.

The Biosolids from the belt filter presses are sent to an area at the Rocky Creek Water Reclamation Facility, where they are mixed with solids from that Water Reclamation Facility, prior to sending out to farm land throughout the surrounding area.

Macon Soils is a subsidiary of the MWA that handles the final approved disposal of biosolids from the Authority's two wastewater treatment plants. Trucks from Macon Soils take the biosolids to apply on the land of farmers in Bibb and surrounding counties. The farmers benefit from these biosolids because of their nutrient content. These solids are applied in a controlled manner according to environmental regulations and analyzed regularly for chemical and biological content.