

8. Wastewater Treatment Master Plan Summary

Background Information

All domestic and industrial wastewater generated within the city of Boulder is processed at the city's 75th Street Wastewater Treatment Plant (WWTP). Septic wastes, hauled to the facility by private haulers, are also processed at the facility. Treated liquid effluent is discharged to Boulder Creek, and anaerobically digested sludge generated at the wastewater treatment plant is hauled away and is applied to farmland. In 2003 an average of 16 million gallons a day of wastewater was processed at the plant.

The Wastewater Utility Plan was prepared in November 2002 to meet the Denver Regional Council of Governments' Clean Water 2000 requirements. The Utility Plan's main objectives were to: (1) define the service area for the WWTP with determined and limited boundaries, (2) describe existing and projected WWTP flows; (3) describe the collection system contained within the WWTP service area and potential future upgrades and improvements, and (4) provide information on future treatment processes.

The plan identified the best treatment technologies for meeting the National Pollutant Discharge Elimination System (NPDES) permit, revised in 2002, which imposed more stringent effluent standards for the removal of ammonia and for meeting anticipated future nutrient removal requirements. The Wastewater Utility Plan succeeds the Wastewater Treatment Facilities Plan as the current de facto 'master plan' for wastewater treatment.

State stream classifications set the amount of various chemical substances allowed in streams, and discharge permits are issued to assure compliance by point sources such as wastewater treatment plants. Boulder's treatment plant is required to be in compliance with state standards, and the city is initiating major improvements to the WWTP to assure this.

Currently, the WWTP provides sludge treatment through an anaerobic digestion process to meet state

and federal Class B biosolids regulations. The Class B biosolids are then agriculturally (land) applied in Eastern Adams County.

However, producing a higher classification, or more stable form, of biosolids could become more beneficial and cost-effective approach in the future. The Utility Plan recommended two improvements to the solids handling facilities at the plant:

1. Construction of a Class A biosolids composting facility.
2. Improve the biosolids handling and dewatering process at the WWTP.

The City Council provided direction in August 2005 regarding biosolids. This includes: maintaining the current Class B biosolids land application program with a portion of the biosolids production composted at a private composting facility and continuing to track biosolids treatment and recycling research and trends to see if better long term options become available.

Future Service Projections and Programs

The upcoming liquid stream improvements to the WWTP should provide adequate treatment of the city's wastewater through the year 2025, provided the current discharge permit and land use regulations do not change substantially. However, it is likely that the discharge permit requirements will become more stringent, perhaps requiring nutrient removal in the future. These anticipated limits for nutrient removal will require the city to further improve the treatment process. The improvements being designed now will treat the 25.0 million gallons per day flows expected in 2025. This flow represents the 'build out' condition at the existing allowable land use densities.

More information on Boulder's Wastewater Treatment operations can be found on the Web at: www.boulder-colorado.gov/index.php?option=com_content&task=view&id=2929&Itemid=2352