

Water Reclamation

Expand Use of Recycled Water

Target(s):

Expand programs to recycle and reuse treated wastewater effluent above current levels by 20% by 2025.

Expand use of “grey water” systems within the City of Lincoln by 20% by 2015.

Lincoln Now:

The City of Lincoln has the continuing responsibility to treat residential and industrial wastewater. Underneath and throughout Lincoln are over 1,000 miles of sanitary sewer lines and 16 pumping stations that keep the wastewater flowing to two municipal wastewater treatment facilities. That adds up to 25 million gallons of water per day running through the treatment facilities – enough to fill 4,200 semi-tanker trucks with water that would stretch from the state capital to downtown Omaha – and treated prior to discharge to Salt Creek.

Wastewater reclamation and reuse is a trend gaining momentum across the country as declining groundwater reservoirs and more frequent drought conditions have stretched water sources vital to both agricultural irrigation and potable water supplies for our homes. The use of recycled water offers two highly significant advantages: first, it gives significant reduction of pollutant loading to nature (even zero emission); secondly it provides a valuable new source of usable water.

Currently the Theresa Street Wastewater Treatment Facility utilizes an average of 710,000 gallons per day (gpd) of non-potable water. The Northeast Wastewater Treatment Facility utilizes an average of 127,000 gpd of non-potable water. This non-potable water is used for process requirements and irrigation on the facilities and as a heat/cooling source for facility buildings. The use of non-potable water for these purposes reduces the usage of 305,505,000 gallons per year of fresh water provided by the Lincoln Water System. The potential cost savings to the Lincoln Wastewater System is \$816,858 annually. The LES Terry Bundy Generating Station also uses 50 to 60 million gallons per year of treated wastewater for their cooling towers from the Northeast Treatment Facility. This also reduces the demand for fresh water provided by the Lincoln Water System. The University of Nebraska Innovation Campus is currently considering using wastewater effluent from the Theresa Street Facility as a heating/cooling source for buildings on the new campus. The usage for this purpose could approach 12 million gallons per day at full build out of the campus.

LPlan 2040 has also called for the City to explore the use of “grey water” systems that safely repurpose non-pathogenic sources of wastewater. “Grey water” systems are onsite water reuse technologies that treat and reuse “grey water (i.e. wastewater generated from activities such as laundry and bathing) in non-potable applications (such as landscaping). Recent plumbing code changes in Lincoln allow for such “grey water” systems provided they meet certain standards, including health and safety regulations. These approaches will be considered in light of recent efforts to develop guidance on treatment of such grey water specific to proposed uses, such as the work of the National Sanitation Foundation. As of 2012, specific health standards for grey water systems have not yet been developed for Lincoln.