



## Storm Water Runoff and Filter Backwash Water Reuse Project St. Anthony Village, MN

The St. Anthony Village water reuse facility is a half million-gallon reservoir located under a stormwater pond. Water stored in the reservoir is recycled to irrigate a 20-acre city hall campus and municipal park site. WSB was retained by the City of St. Anthony Village to complete the design, plans, and specifications for this first of its kind innovative project. In addition, WSB was responsible for construction management, surveying, and construction observation services. The reuse facility provides a multitude of environmental benefits that substantially protect and improve water resources of the region.

### Project Awards

2009-2010 Minnesota Governor's Award for Pollution Prevention  
 2010 ACEC/MN Engineering Excellence Grand Award  
 2009 LMC City of Excellence Award: Population 5,000 - 19,999  
 2009 MPWA Project of the Year – Honorable Mention  
 2008 CEAM Municipal Project of the Year – Honorable Mention



*The contractor used stepped slopes to provide safe working conditions in the trench during construction.*

The project captures and reuses two primary sources of water that were previously discharged to surface waters. The first source is storm water runoff from 13.5 acres of county road, city streets, and the city hall site. This water, commonly containing pollutants such as phosphorus and total suspended solids, is collected by storm sewer and drained into the storage reservoir. The second source of water is filter backwash water, which is a waste byproduct of the City's water treatment process. Approximately 75,000 gallons of water are used weekly to clean the excess iron and manganese from the filters.

Prior to the project, the pollutants and runoff volumes from these two sources of water

were discharged to Mirror Lake and the Mississippi River. This project captures these previous waste products in a reservoir so that the water can be reused for irrigation purposes. The filtering process that irrigation provides helps to eliminate discharging pollutants and excess volumes to the downstream receiving waters. Using this system reduces the City's irrigation costs, substantially reduces the need to use groundwater resources, and eliminates the previous six million gallons of potable water needed for watering.

*Client:* City of St. Anthony Village  
*Total project cost:* \$1.5 million  
*Completion:* November 2008



*The underground reservoir was custom designed to fit into the available space and was constructed in two phases to accommodate storage of material on the small site.*