



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003CO71B

Title: Urban Landscape Irrigation with Reclaimed Wastewater, Phase 2: Current Knowledge and Community Experience

Project Type: Research

Focus Categories: Irrigation, Water Quality, Water Supply

Keywords: Urban landscape irrigation, Water reuse, Soil salinity

Start Date: 03/01/2004

End Date: 02/28/2005

Federal Funds: \$13,865

Non-Federal Matching Funds: \$27,730

Congressional District:

Principal Investigator:

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Abstract

Growing concerns of our future water supply and more stringent wastewater discharge standards to surface water bodies have contributed to increasing interest in using recycled wastewater for urban landscape irrigation. Like many other places in the world, cities along the Front Range of Colorado plan to expand wastewater reuse systems. Therefore, increasing numbers of landscape facilities and development areas will switch to recycled water for irrigation. To provide relevant information to Coloradoans, the objectives of this project are:

- 1) to conduct a literature review and synthesize current knowledge to provide information on: a) guidance in monitoring water quality and soil and plant health; and b) best management practices for urban landscapes under recycled wastewater irrigation.
- 2) to evaluate landscape plants and soils along the Front Range of Colorado that are currently under recycled wastewater irrigation in comparison with plants and soils with conventional water source irrigation. Ten urban landscape sites will be used for this study with 5 sites that have been irrigated with recycled wastewater for different numbers of years and the 5 other sites that have been irrigated with surface or municipal water as

controls. From each site, soil, irrigation water, and plant samples will be collected and analyzed for salinity, sodicity, and/or other ion content. Soil infiltration and oxygen content will also be measured. These efforts will help us to understand the responses of urban landscape plants and soils to recycled wastewater irrigation and identifying proper management practices that are critical to the long-term success of water reuse in urban landscape irrigation.