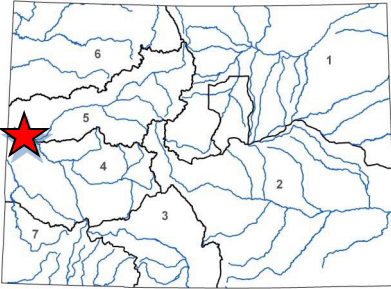




Water Plan Grant Application

Lat: 39.068424
Long: -108.564385



LOCATION

County: *Mesa*
Drainage Basin: *Gunnison*

Grand Junction Graywater Education and Incentive Program City of Grand Junction

DETAILS

Total Project Cost:	\$211,587.00
Water Plan Grant Request:	\$139,240.00
Recommended Amount:	\$139,240.00
Other CWCB Funding:	\$0.00
Other Funding Amount:	\$20,000.00
Applicant Match:	\$52,347.00
Project Type:	Incentives/Planning/Outreach
Project Category:	Conservation & Land Use Planning
Measurable Result:	Up to 67,000 Coloradoans impacted by water saving actions, annual water savings up to 2.4 million gal/yr

The city of Grand Junction adopted a Graywater Control Program Ordinance in 2022. Following passage of the State of Colorado's Graywater Control Regulation, owners and developers are slow to install graywater systems due to a general lack of knowledge of and familiarity with the graywater uses and systems and the high cost of installation. This project seeks to overcome these hurdles in the early stages of the City's Graywater Control Program Ordinance through education, outreach, demonstration, and incentive programs.

The project will 1) Educate homeowners, commercial businesses, institutions, and builders/developers about the City's Graywater Control Program Ordinance, benefits of greywater systems, design criteria, and the types of systems that are allowed under the ordinance through printed/online materials and in-person workshops; 2) Partner with Colorado Mesa University (CMU) install a commercial graywater system that can be used for training and demonstration; 3) Establish a fund to incentivize the installation of graywater systems in Grand Junction by distributing 50 Laundry to Landscape kits and offsetting permitting fees and system costs for up to 30 new residential greywater systems (single and/or multifamily units).

The City will collaborate with other municipalities, primarily Denver, to adapt educational materials for Grand Junction's Greywater Ordinance. Spanish and English templates will be formatted so that they can be shared across municipalities or adapted for use by others. Workshops will target both homeowners and greywater installers.

Large scale, publicly accessible demonstration sites educate and improve system familiarity for builder and users. At over 140 acres and housing 2,500 students, the Colorado Mesa University is one of the City's largest water customers with annual water usage on campus of about 49 million gallons of which almost 80% is used for irrigation. Incorporating greywater systems at CMU could yield significant water savings. The City will work with CMU to develop a concept plan for a graywater system for irrigating 4,000 sf of landscape adjacent to the CMU Formation District Multi Use Facility, with the intention of installing the system during building construction.

Funding Recommendation: Staff recommends Board approval of \$139,240.00 to the City of Grand Junction for the Grand Junction Greywater Education and Incentive Program through Conservation and Land Use category.

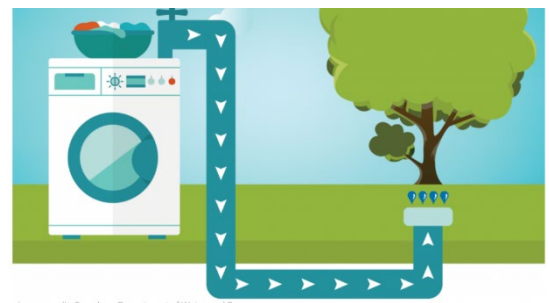


Image credit: Pasadena Department of Water and Power



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Grand Junction, City of
Name of Water Project	Grand Junction Graywater Education and Incentive Program
Grant Request Amount	\$139,240.00
Primary Category	\$139,240.00
<i>Conservation & Land Use Planning</i>	
Total Applicant Match	\$52,347.00
<i>Applicant Cash Match</i>	\$30,507.00
<i>Applicant In-Kind Match</i>	\$21,840.00
Total Other Sources of Funding	\$20,000.00
<i>Colorado Mesa University</i>	\$20,000.00
Total Project Cost	\$211,587.00

Applicant & Grantee Information

Name of Grantee: Grand Junction, City of
Mailing Address: 250 N. 5th Street Grand Junction CO 81501
FEIN: 846,000,592

Organization Contact: Randi Kim
Position/Title: Utilities Director Email: randik@gjcity.org
Phone: 970-244-1492

Organization Contact - Alternate: Mark Ritterbush
Position/Title: Water Services Manager Email: markri@gjcity.org
Phone: 970-256-4185

Grant Management Contact: Randi Kim
Position/Title: Utilities Director Email: randik@gjcity.org
Phone: 970-244-1492

Description of Grantee/Applicant

City of Grand Junction Water Utility

Type of Eligible Entity

- ☐ Public (Government)
- ☐ Public (District)
- ☒ Public (Municipality)
- ☐ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ☐

- ☐ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☐ Agricultural Projects
Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☒ Conservation & Land Use Planning
Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☐ Watershed Restoration & Recreation
Projects that promote watershed health, environmental health, and recreation.
- ☐ Water Storage & Supply
Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	39.068425
Longitude	-108.564385
Lat Long Flag	Municipal centroid: Coordinates based on centroid of municipal boundary
Water Source	Kannah Creek (tributary to Gunnison River)
Basins	Gunnison
Counties	Mesa
Districts	42-Lower Gunnison River

Water Project Overview

Major Water Use Type	Municipal
Type of Water Project	Planning
Scheduled Start Date - Design	10/2/2023
Scheduled Start Date - Construction	

Description

The city of Grand Junction adopted a Graywater Control Program Ordinance on September 21, 2022. Based on experiences of other municipalities/counties that have adopted ordinances following adoption of the State of Colorado's Graywater Control Regulation, owners and developers are slow to adopt graywater systems due to a general lack of knowledge of and familiarity with the graywater uses and systems and the high cost of installation. This grant proposal seeks to overcome these hurdles in the early stages of the program following the City's passing of its Graywater Control Program Ordinance through education, outreach, demonstration, and incentive programs.

The funding will be used to educate homeowners, commercial businesses, institutions, and builders/developers about the City's Graywater Control Program Ordinance, design criteria, and the types of systems that are allowed under the ordinance. The City will also partner with Colorado Mesa University (CMU) to set up a site where a

graywater system(s) is installed and can be used for training and demonstration. Lastly, the City will establish a fund to incentivize the installation of graywater systems in Grand Junction.

Measurable Results

New Storage Created (acre-feet)
New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
Existing Storage Preserved or Enhanced (acre-feet)
New Storage Created (acre-feet)
Length of Stream Restored or Protected (linear feet)
Length of Pipe, Canal Built or Improved (linear feet)
Efficiency Savings (dollars/year)
Efficiency Savings (acre-feet/year)
Area of Restored or Preserved Habitat (acres)
Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)

67,000 Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning

67,000 Number of Coloradans Impacted by Engagement Activity

Other

Graywater systems can save between 10% to 25% of water or up to 20,000 gallons per year for a single-family household. Grand Junction's annual water demand is 5,600 acre-feet per year of which about 2,100 acre-feet per year is used for irrigation. Adoption of graywater systems could significantly reduce this annual water demand particularly to offset irrigation demands.

The number of new dwelling units projected for the city of Grand Junction is 600 in 2023, 550 in 2024, and 625 in 2025. Assuming a potential adoption rate of 20% for these new units, annual water savings is estimated at 2.4 million gallons per year.

Water Project Justification

Grand Junction's Graywater Education and Incentive Program will develop materials and resources that can be used in Grand Junction to foster adoption of the City's newly adopted Graywater Control Program Ordinance.

A primary goal of the Colorado Water Plan is to address the State's supply and demand challenges. Relevant Colorado Water Plan Sections are listed below:

Supply - Demand Gap

Colorado's Water Plan sets a measurable objective of reducing the projected 2050 municipal and industrial gap from as much as 560,000 acre-feet to zero acre-feet by 2030.

The success of Colorado's Water Plan will ultimately be measured by whether or not the municipal water supply-and-demand gap is closed, and the choices we make to close it. With increased efforts on conservation and reuse, Colorado can close its gap, balance its water values, and address the effects of climate change on water resources.

- The Graywater Education and Incentive Program supports this goal by increasing awareness of the supply – demand gap and encouraging adoption of a water conservation opportunity identified in the Colorado Water Plan (page 7-32).
- Widespread adoption of graywater will help to improve local water supply reliability and reduce the City's need to develop a secondary water supply on the Gunnison River to mitigate effects of climate change.

Conservation

Colorado's Water Plan sets a measurable objective to achieve 400,000 acre-feet of municipal and industrial water conservation by 2050.

Colorado must address projected gaps between future water needs and available water provisions from both the supply side and the demand side. Every acre-foot of conserved water used to meet new demands is an acre-foot of water that does not need to come from other existing uses.

- The Graywater Education and Incentive Program will advance efforts to supplement scarce water supplies through alternative water sources. Reuse of greywater for irrigation and non-potable uses is a valuable practice for reduction of year-round demand on public water supplies treated to drinking water standards.
- The Graywater Education and Incentive Plan directly supports two of the goals of Section 6.3 (Water Conservation and Reuse) of the Colorado Water Plan. It promotes activities that reduce overall future water needs through cost-effective water efficiency measures and it promotes a water efficiency ethic. When adoption becomes widespread, graywater reuse will become a critical component of reuse strategies intended to address future water needs.
- Graywater reuse is a "no-and-low-regret" strategy that can be used to increase conservation. It is a viable action no matter how the future unfolds, is relatively low cost, and has almost no impact on Colorado's agriculture, environment, or economy.
- Implementation of graywater reuse can help with establishing medium levels of conservation that can help to meet the M&I gap by 2050.
- A Graywater Education and Incentive Program can help meet the Gunnison River Basin goals and measurable objectives by promoting graywater reuse as one strategy to use water efficiently.
- Promoting graywater reuse through an education and incentive program can encourage high levels of participation in conservation programs.
- Graywater reuse is a tool that can help reduce M&I demands for the Gunnison River Basin to the levels described in the Colorado Water Plan (page 6-27) and help conserve water as described in the Gunnison River BIP.
- The Graywater Education and Outreach Program described in this proposal will be shared with other municipalities, particularly on the Western Slope, addressing water demand shortfalls and will be designed to be scalable so that it will be effective whether implemented on a small- or a large-scale.

Agriculture

Colorado's Water Plan sets an objective that agricultural economic productivity will keep pace with growing state, national, and global needs, even if some acres go out of production. Without a water plan, Colorado could lose up to 700,000 more acres of irrigated agricultural lands—that equals 20 percent of irrigated agricultural lands statewide.

- Graywater reuse in Grand Junction is a water conservation activity which can play an important role in balancing the need for additional water supply for the urban area.
- Graywater reuse can help reduce the increasing water needs of municipalities and industries that compete with agriculture for water supplies.

Education, Outreach and Innovation

Colorado's Water Plan sets a measurable objective to significantly improve the level of public awareness and engagement regarding water issues statewide by 2020, as determined by water awareness surveys. Colorado's Water Plan also sets a measurable objective to engage Coloradans statewide on at least five key water challenges (identified by CWCB) that should be addressed by 2030.

Colorado's Water Plan will expand outreach and education efforts that engage the public to promote

well-informed community discourse and decision making regarding balanced water solutions. This work will be collaborative and include state, local, and federal partners. As one component of this overall strategy, the CWCB will work with Colorado's innovation community, education and outreach experts, research institutions, and the Governor's Colorado Innovation Network (COIN) to address Colorado's water challenges with innovation and "outside-the-box" creativity. (Colorado Water Plan Executive Summary p. 15) The plan directly supports conservation and reuse education.

- The Graywater Education and Incentive Program will help to strengthen the partnership between the City, Colorado Mesa University, and home builders and developers.
- The Graywater Education and Incentive Program is specifically intended to increase the level of public awareness and engagement of techniques to conserve and reuse water.
- The Graywater Education and Incentive Program will consist of several communication vehicles, intended to offer opportunities for participation by different target audiences including homeowners, developers and builders, students, installers, and elected officials.

The Graywater Education and Outreach Program will advance three of the nine goals of the Gunnison Basin Implementation Plan including:

- Protecting existing water uses for agricultural land, environmental, and recreational uses.
- Addressing agricultural and municipal and industrial water shortages.
- Continuing public education, outreach, and stewardship.

As noted above, the Graywater Education and Incentive Program is aimed to increase adoption of graywater use thereby preserving water for other uses including agriculture, the environment, and recreation. It will also help alleviate water shortages. The program is specifically intended to increase the level of public awareness and engagement of techniques to conserve and reuse water.

Related Studies

Summary of Water Supply System: City Grand Junction (2018)
City of Grand Junction Water Supply Modeling (2019)
City of Grand Junction Water Marketing Strategy Report (2021)
Options Assessment for the City of Grand Junction Water Supply (2021)

Taxpayer Bill of Rights

The City of Grand Junction has voter authorization to receive and expend all revenues over the amount which it would be permitted to collect under Article X, Section 20 of the Colorado Constitution.