COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	University of Northern Colorado
Name of Water Project	UNC Landscape Water Resiliency Comprehensive Plan
Grant Request Amount	**$167,799.49**
Primary Category	$167,799.49
Conservation & Land Use Planning	
Total Applicant Match	**$65,513.32**
Applicant Cash Match	$33,375.40
Applicant In-Kind Match	$32,137.92
Total Other Sources of Funding	**$0.00**
Total Project Cost	**$233,312.81**

Applicant & Grantee Information

Name of Grantee: University of Northern Colorado
Mailing Address: 501 20th St Greeley CO 80639

Organization Contact: Chris Bowers
Position/Title: Energy & Sustainability Manager
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Organization Contact - Alternate: Sarah Boyd
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Grant Management Contact: Chris Bowers
Position/Title: Energy & Sustainability Manager
Phone: 970-672-7177
Email: christopher.bowers@unco.edu

Description of Grantee/Applicant

the University of Northern Colorado is a public, doctoral research and educational institution that is home to about 9,000 students and more than 200 undergraduate and graduate programs.

Type of Eligible Entity

- [x] 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	40.410000
Longitude	-104.693000
Lat Long Flag	
Water Source	City of Greeley Municipal
Basins	South Platte
Counties	Weld
Districts	2-South Platte: Denver Gage to Greeley; 3-Cache La Poudre River; 4-Big Thompson River

Water Project Overview

Major Water Use Type	Municipal
Type of Water Project	Planning
Scheduled Start Date - Design	5/1/2025
Scheduled Start Date - Construction	9/30/2026

Description

The State of Colorado Water Plan Grant will support the UNC Water Resiliency Plan, aimed at ensuring long-term water conservation and resilience for the University of Northern Colorado (UNC) campus and the Greeley community. With 40% of its water supply sourced from the Colorado River, UNC faces challenges due to water scarcity and basin shortages. This strategic initiative will identify a 10-year course for landscape water conservation and resilience planning, covering 260 acres of campus landscape.

The project will inventory vegetation, water usage, and infrastructure, informing recommendations for conservation strategies, stormwater harvesting, and infrastructure improvements. Guided by the Universities Rowing not Drifting Strategic plan, it prioritizes student involvement, inclusivity, and innovation. By fostering meaningful discussions and implementing resilient designs, UNC aims to lead in water conservation, aligning with statewide water conservation agendas.

The project will enhance campus sustainability, promote cost-effective solutions, and engage with community partners for regional water resource management. It directly supports UNC’s academic mission by providing a

welcoming environment and addresses deferred maintenance issues associated with aging infrastructure. Through proactive risk management, UNC seeks to safeguard its landscape as an asset for current and future generations. Future funding opportunities are anticipated through various grant sources, ensuring the implementation of recommended strategies and initiatives for long-term water resilience.

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)
283 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)
Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
Number of Coloradans Impacted by Engagement Activity
Other

The potential water savings from irrigation upgrades and turf conversion will vary based on the specific areas targeted, associated risks, and overall project execution. However, upon completion, we estimate that these improvements could save up to 92,135,806 gallons of water annually, equivalent to 283 acre-feet.

Water Project Justification

Supporting the Colorado Water Plan

This project will develop a 10-year strategic plan for landscape water conservation and resiliency on the University of Northern Colorado's campus in Greeley. The plan will inventory and map all 260 acres of the campus for vegetation types, water usage, activity levels, irrigation infrastructure, and opportunities for storm water harvesting and other infrastructure improvements to inform recommendations aimed at increasing the Universities landscape water conservation and resiliency. This project strongly supports the following goals:

Colorado's Water Plan (2023)
(Pg. 9) The UNC landscape water conservation and resiliency plan ("project") will address the Vibrant Communities action area.
Holistic water management is essential for creating vibrant communities that balance water supply and demand needs to create a sustainable urban landscape. Colorado communities need resilient water supplies, water conscious and attractive urban landscapes, planning that integrates land use and water solutions, and residents who understand the importance of water to their lives and economy. An integrated One Water ethic is necessary to create the transformative change needed to meet the moment and the future.
(Pg. 45) The project is intended to help increase efficient water use which will help address the municipal and industrial (M&I) supply and demand gap.
(Pg. 122) The project readily aligns with the following South Platte and Metro Basin Roundtable Goals as listed in the Colorado Water Plan:
Encourage implementation of projects
Maintain and promote reuse
Maintain and promote municipal and industrial conservation and efficiency

(Pg. 153) The project utilizes the following solution tools:
Public Outreach and Education
Climate Adaptation
Water Efficiency and Conservation Programs
(Pg. 176 - 181) The project is consistent with the Water Plan's Vibrant Communities and Resilient Planning Visions and specifically partner actions towards:
Meeting Future Water Need
Wise Water Use
Healthy Lands
Engaged Partners
(Pg. 188) The project specifically assists in meeting Agency Action 1.7 - Identify turf replacement options that support transformative landscape change.
Basin Implementation Plans
This project is poised to have an influence across three different basin roundtables in Colorado given the wide water portfolio from our water provider, the City of Greeley.

South Platte – Metro Basin Implementation Plan (BIP) (2022, Volume 1)
(Pg. 3) The project helps realize the BIP Strategic Vision and Strategies to meet the municipal supply gap.
(Pg. 24) The project is consistent with the following BIP Themes:
The South Platte Basin Will Continue its Leadership Role and Performance in Efficient Use and Management of Water
The South Platte Basin Must Sustain its Economy, Culture, and Environment
(Pg. 25) The project supports the BIP goal to:
Maintain and promote municipal and industrial conservation and efficiency

Colorado Basin- 2023 Basin Implementation Plan:
(Pg. 13 and 19) Emphasize basin-wide conservation efforts
(Pg. 18) Develop local water conscious land use strategies

North Platte Basin:
Pg. 8- Augment economic development and diversification through strategic water use and development.

Related Studies

• Rabêlo, V.G., Berchin, I.I., De León, M., de Toledo, J.H.D., da Silva, L.R., de Andrade Guerra, J.B.S.O. (2019). "University Campuses as Town-Like Institutions: Promoting Sustainable Development in Cities Using the Water-Sensitive Urban Design Approach." In: Leal Filho, W., Bardi, U. (eds) Sustainability on University Campuses: Learning, Skills Building and Best Practices. World Sustainability Series. Springer, Cham. DOI: 10.1007/978-3-030-15864-4_29
• Gulwadi, G.B., Scholl, K.G. (2017). "Campus Infrastructure and Sustainable Resource Management Practices: Mapping Campus DNA for Human Resiliency." In: Leal Filho, W., Brandli, L., Castro, P., Newman, J. (eds) Handbook of Theory and Practice of Sustainable Development in Higher Education. World Sustainability Series. Springer, Cham. DOI: 10.1007/978-3-319-47868-5_7
• Cockerill, K., & Carp, J. (2009). "Leveraging opportunities for campus sustainability: a case study of water resources." Sustainability: Science, Practice and Policy, 5(2), 28–37. DOI: 10.1080/15487733.2009.11908033
• Zellner, H. M. (2014). "Water conservation on campuses of higher education in Texas" (Doctoral dissertation).
• Buchanan, A. (2016). "The role of institutions of higher education in water conservation in Los Angeles."
• Eickhoff, E. J. (2018). "Going green with water: perceptions of water conservation by college students in the

Texas panhandle" (Doctoral dissertation).
• Johnson, L., & Castleden, H. (2011). "Greening the campus without grass: using visual methods to understand and integrate student perspectives in campus landscape development and water sustainability planning." Area, [Volume 43, Issue 3], Royal Geographical Society with IBG.
• Anis, M., Afiff, A. Z., Kiswanto, G., Suwartha, N., & Sari, R. F. (2018). "Managing university landscape and infrastructure towards green and sustainable campus." E3S Web Conf., 48, 02001. DOI: 10.1051/e3sconf/20184802001
• City of Greeley (2022). “Water Efficiency Plan.”

Taxpayer Bill of Rights

N/A