Colorado School of Mines Steam Infrastructure (Capital Renewal)

2026-010

Project Status

This project scope was first requested for funding in FY 2023-24; this is the third request for funding. The Colorado School of Mines (CSM) received cash funds spending authority to increase the capacity of steam and chilled-water infrastructure serving its South Campus. The school subsequently requested state funding for these improvements for FY 2018-19, but did not receive funding and made the improvements with the previously approved cash funding. CSM received additional cash funds spending authority in July 2019 to extend steam, chilled-water, and power services for new buildings along 18th Street. The previous request has been split into two requests this year: this project and Utilities Infrastructure.

Table 1 Prioritization

Prioritized By	Priority	Notes
Colorado School of Mines	1 of 2	
Colorado Commission on Higher Education	6 of 29	
Office of State Planning and Budgeting	Not prioritized	Not recommended for funding.

Table 2
Prior Appropriation and Request Information

		Prior	Budget Year	Out Year	Future	
_	Fund Source	Appropriation	FY 2025-26	FY 2026-27	Requests	Total Costs
	CCF	\$0	\$7,037,740	\$0	\$0	\$7,037,740
	CF	\$0	\$2,358,442	\$0	\$0	\$2,358,442
	Total	\$0	\$9,396,182	\$0	\$0	\$9,396,182

Colorado School of Mines Steam Infrastructure

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Table 3 Itemized Cost Information

	Prior	Budget Year	Out Year	Future	
Category	Appropriation	FY 2025-26	FY 2026-27	Requests	Total Costs
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$751,752	\$0	\$0	\$751,752
Construction	\$0	\$7,790,231	\$0	\$0	\$7,790,231
Equipment	\$0	\$0	\$0	\$0	\$0
Miscellaneous	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$854,199	\$0	\$0	\$854,199
Total	\$0	\$9,396,182	\$0	\$0	\$9,396,182

Program Plan Status

Approved Program Plan: Yes

Date Approved: October 2024

FCI: N/A

Project Description/Scope of Work

CSM is requesting a combination of state funds and cash funds spending authority to replace steam infrastructure on campus. This is a capital renewal project. The capital renewal approach focuses on upgrading building systems, infrastructure, and the basic building components within existing academic buildings on a building-by-building basis, rather than project-by-project. The project replaces a failing boiler that is necessary for providing sufficient steam heat for the campus.

CSM is purchasing a new boiler in FY 2024-25 (reflected in the cash funds match in this project). This project will install the new boiler, replace the condensate pump station, replace the surge tank, and replace condensate filters.

The project also makes ADA improvements to the Volk Gymnasium, including bring the main entrance and ramp into compliance.

Cost assumption. CSM completed two independent construction estimates for the project based on bids received for comparable work. Inflation is factored at 6.0 percent with additional change covered by the project contingency. As a capital renewal project, it is exempt from Art in Public Places program requirements and High Performance Certification Program requirements.

Colorado School of Mines Steam Infrastructure

2026-010

Table 4 Project Schedule

Project Component	Start Date	Completion Date
Design	January 2025	November 2025
Construction	November 2025	July 2026
Equipment	September 2024	February 2026

Project Justification

The school's boiler #3 (of three) failed in 2022. CSM made several repairs, but the boiler's status remains uncertain. Not replacing the boiler risks loss of heating service on campus, which would compromise the use of campus facilities. If CSM does not secure state funding, it may need to seek additional, unidentified resources to avoid system failure. This project relieves \$1.7 million in deferred maintenance.

Program Information

Founded in 1874, CSM is a public teaching and research university dedicated to engineering and applied science, with a strategic goal to be "the go-to place for use-inspired research and innovation needed for challenges facing industry and society." Total enrollment for undergraduate and graduate students is 8,048 for Fall 2024, and is projected to grow to 8,439 for Fall 2025.

Source of Cash Funds

The source of cash funds for this project is general fund reserves. No student fees are allocated for this project.

Operating Budget

Operating expenses are paid from institutional sources. The new boiler is expected to reduce operating costs due to modern efficiency standards.

Staff Questions and Issues

Responses have been incorporated into the write-up.

Colorado School of Mines
Utilities Infrastructure (Capital Renewal)

2026-011

Project Status

This project scope was first requested for funding in FY 2023-24; this is the third request for funding. The Colorado School of Mines (CSM) received cash funds spending authority to increase the capacity of steam and chilled-water infrastructure serving its South Campus. The school subsequently requested state funding for these improvements for FY 2018-19, but did not receive funding and made the improvements with the previously approved cash funding. CSM received additional cash funds spending authority in July 2019 to extend steam, chilled-water, and power services for new buildings along 18th Street. The previous request has been split into two requests this year: this project and Steam Infrastructure. This project anticipates receiving approximately \$500,000 of emergency controlled maintenance funds from the Office of the State Architect in FY 2024-25 towards the chiller replacement, which is in addition to the funding request described below.

Table 1
Prioritization

Prioritized By	Priority	Notes
Colorado School of Mines	2 of 2	
Colorado Commission on Higher Education	14 of 29	
Office of State Planning and Budgeting	Not prioritized	Not recommended for funding.

Table 2
Prior Appropriation and Request Information

	Prior	Budget Year	Out Year	Future	
Fund Source	Appropriation	FY 2025-26	FY 2026-27	Requests	Total Costs
CCF	\$0	\$12,289,069	\$7,590,592	\$0	\$19,879,661
CF	\$0	\$4,118,233	\$2,543,710	\$0	\$6,661,943
Total	\$0	\$16,407,302	\$10.134.302	\$0	\$26.541.604

Colorado School of Mines Utilities Infrastructure

2026-011

Table 3 Itemized Cost Information

	Prior	Budget Year	Out Year	Future	
Category	Appropriation	FY 2025-26	FY 2026-27	Requests	Total Costs
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$1,253,026	\$803,824	\$0	\$2,056,850
Construction	\$0	\$13,662,703	\$8,409,178	\$0	\$22,071,881
Equipment	\$0	\$0	\$0	\$0	\$0
Miscellaneous	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$1,491,573	\$921,300	\$0	\$2,412,873
Total	\$0	\$16,407,302	\$10,134,302	\$0	\$26,541,604

Program Plan Status

Approved Program Plan: Yes Date Approved: October 2024

FCI: N/A

Project Description/Scope of Work

CSM is requesting a combination of state funds and cash funds spending authority for the first phase of a two-phase project to update chilled water and electrical infrastructure on campus. This is a capital renewal project. The capital renewal approach focuses on upgrading building systems, infrastructure, and the basic building components within existing academic buildings on a building-by-building basis, rather than project-by-project. The project improves the reliability of the chilled water system and resolves reliability and redundancy deficiencies in its electrical distribution system.

CSM is working to replace an existing an obsolete chiller in FY 2024-25. This project further upgrades the chilled water system by connecting chiller plants in pairs for redundancy, removing glycol as necessary, and standardizing and extending piping.

The electrical distribution scope includes completing Loop 2 and transferring some building to Loop 1, which increases overall electrical capacity, and providing grounding as required by the utility service provider.

Cost assumption. CSM completed two independent construction estimates for the project based on bids received for comparable work. Inflation is factored at 6.0 percent with additional change covered by the project contingency. As a capital renewal project, it is exempt from Art in Public Places program requirements and High Performance Certification Program requirements.

Colorado School of Mines Utilities Infrastructure

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Table 4 Project Schedule

Project Component	Start Date	Completion Date
Design	July 2025	May 2026
Construction	June 2026	September 2027

Project Justification

The existing chilled water system is at capacity and unreliable. The system has experienced multiple failures in Chiller Plant 5. Without improvements, renting a temporary chiller can cost \$30,000 to \$45,000 per month, which cost may be prohibitive. The project adds redundancies that protect system operations, and increases the overall chilled water loading for future growth.

The electrical distribution system is subject to occasional brownouts from the electric utility. Campus load is growing and expected to exceed capacity within a few years. Completing Loop 2 and realigning the load between the campus' two loops will make the total system more efficient and create additional capacity to support future growth.

Program Information

Founded in 1874, CSM is a public teaching and research university dedicated to engineering and applied science, with a strategic goal to be "the go-to place for use-inspired research and innovation needed for challenges facing industry and society." Total undergraduate and graduate enrollment is 8,048 for Fall 2024, and is projected to grow to 8,439 for Fall 2025.

Source of Cash Funds

The source of cash funds for this project is general fund cash reserves and tax-exempt debt financing. No student fees are allocated for this project.

Operating Budget

Operating expenses are paid from institutional sources.

Colorado School of Mines Utilities Infrastructure

2026-011

Staff Questions and Issues

All questions have been incorporated into the write-up.