

Fiscal Year 2020-21 Capital Construction Request

Colorado Mesa University Health Sciences, PA/PT/OT Center

PROGRAM PLAN STATUS

2019-001

Approved Program Plan? Date Approved:

PRIORITY NUMBERS

<u>Prioritized By</u>	<u>Priority</u>	
DeptInst	1 of 6	
CCHE	10 of 39	
OSPB	37 of 47	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

<u>Fund Source</u>	<u>Prior Approp.</u>	<u>FY 2020-21</u>	<u>FY 2021-22</u>	<u>Future Requests</u>	<u>Total Cost</u>
CCF	\$0	\$9,732,546	\$0	\$0	\$9,732,546
CF	\$0	\$962,561	\$0	\$0	\$962,561
Total	\$0	\$10,695,107	\$0	\$0	\$10,695,107

ITEMIZED COST INFORMATION

<u>Cost Item</u>	<u>Prior Approp.</u>	<u>FY 2020-21</u>	<u>FY 2021-22</u>	<u>Future Requests</u>	<u>Total Cost</u>
Land Acquisition	\$0	\$242,650	\$0	\$0	\$242,650
Professional Services	\$0	\$1,635,643	\$0	\$0	\$1,635,643
Construction	\$0	\$6,857,890	\$0	\$0	\$6,857,890
Equipment	\$0	\$1,398,781	\$0	\$0	\$1,398,781
Miscellaneous	\$0	\$62,407	\$0	\$0	\$62,407
Contingency	\$0	\$497,736	\$0	\$0	\$497,736
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$10,695,107	\$0	\$0	\$10,695,107

PROJECT STATUS

This is the third request for funding. Funding was first requested on behalf of the project for FY 2018-19.

PROJECT DESCRIPTION / SCOPE OF WORK

Colorado Mesa University (CMU) is requesting a combination of state funds and cash funds spending authority to construct a 20,657-GSF, two-story building to house three new Health Sciences programs. The building will house the university's recently created Physician Assistant (PA), Physical Therapy (PT), and Occupational Therapy (OT) programs. The PA/PT/OT Center will be located adjacent to the university's recently constructed Nurse Practitioner Center and will be designed with similar interior and exterior architectural features. Specifically, space in the new building for the PA program will include:

- two 30-student classrooms;
- six student breakout rooms;

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- clinical exam rooms;
- student-faculty interactive space; and
- clinical lab space.

The building will also include two additional classrooms and two instructional labs for the PT program, as well as two classrooms and one lab for the OT program. Finally, the new building will include student-faculty interactive spaces and a cadaver lab for use by the entire Kinesiology Department.

Cost assumption. The cost assumption was determined through the program planning process. The university relied on the recently constructed Nurse Practitioner Center for its cost projection, escalated for time. The cost per GSF is \$582. The project cost does not account for future inflation. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

The university says it is starting new graduate degree programs in PA, PT, and OT in order to meet the regional health care needs of western Colorado. With the new programs, CMU will offer a Master of Science degree in Physician Assistant Studies. Both the PT and OT programs will offer doctorate degrees.

The university explains that the Western Slope and the state as a whole will benefit from the building, pointing to the lack of PA, PT, and OT educational offerings statewide in relation to the student demand for such programs and the demonstrated need for such professionals.

Project alternatives. The university says it considered remodeling unused basement space under the Nurse Practitioner Center; however, it was determined that the basement would not meet the space needs of the new programs. CMU also considered utilizing available space within the Wellness Center, but it was also deemed to be too small and not suitable for the type of instruction involved. Since the first cohort of PA students will enroll for fall 2019, the program will be temporarily housed in the Wellness Center, but CMU says the program will quickly outgrow this space.

PROGRAM INFORMATION

Founded in 1925, CMU offers liberal arts, professional, and technical programs at the certificate, associate, baccalaureate, and graduate degree levels. The university specifically emphasizes increasing the level of educational attainment for the residents of its 14-county region in Western Colorado. The Kinesiology Department offers undergraduate programs in adapted physical education, athletic training, exercise science, fitness and health promotion, K-12 education, personal training, and sport management. The Department of Health Sciences offers graduate programs in nursing, nurse practitioner, and health information technology systems.

PROJECT SCHEDULE

Start Date	Completion Date
May 2020	August 2020
August 2020	June 2021
June 2021	July 2021
	July 2021

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Health Sciences, PA/PT/OT Center

SOURCE OF CASH FUNDS

The source of cash funds for the project is institutional reserves and fundraising.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the project to have an operating impact of about \$4.62 per square foot, or \$95,435 per year.

STAFF QUESTIONS AND ISSUES

1. What is the maximum current and projected class size per year for the PA, PT, and OT programs?

PA: Currently 22 projected in Jan 2020 cohort, then 28 for the next five years

OT: Spring 2021 cohort – 14; Spring 2022 cohort – 16; Spring 2023 cohort – 18; Spring 2024 cohort – 20

PT: Spring 2025 cohort – 20; Spring 2026 cohort – 25, Spring 2027 cohort – 30

These class size limitations are set by the accrediting body, not by CMU. Clearly, the applicant pool suggests there is extreme interest in these programs. For example, CMU received over 1400 applications for the 22 slots for the cohort starting in January 2020. We anticipate the same for the OT program, which is next to come on line.

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Colorado Mesa University *Kinesiology Renovation and Expansion*

PROGRAM PLAN STATUS

2017-059

Approved Program Plan? Date Approved:

PRIORITY NUMBERS

<u>Prioritized By</u>	<u>Priority</u>	
Dept/Inst	2 of 6	
CCHE	11 of 39	
OSPB	38 of 47	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

<u>Fund Source</u>	<u>Prior Approp.</u>	<u>FY 2020-21</u>	<u>FY 2021-22</u>	<u>Future Requests</u>	<u>Total Cost</u>
CCF	\$0	\$22,413,563	\$0	\$0	\$22,413,563
Total	\$0	\$22,413,563	\$0	\$0	\$22,413,563

ITEMIZED COST INFORMATION

<u>Cost Item</u>	<u>Prior Approp.</u>	<u>FY 2020-21</u>	<u>FY 2021-22</u>	<u>Future Requests</u>	<u>Total Cost</u>
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$2,241,210	\$0	\$0	\$2,241,210
Construction	\$0	\$18,392,100	\$0	\$0	\$18,392,100
Equipment	\$0	\$575,000	\$0	\$0	\$575,000
Miscellaneous	\$0	\$137,941	\$0	\$0	\$137,941
Contingency	\$0	\$1,067,312	\$0	\$0	\$1,067,312
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$22,413,563	\$0	\$0	\$22,413,563

PROJECT STATUS

This project was requested for funding in FY 2019-20. Colorado Mesa University (CMU) received cash funds spending authority in 2016 for a similar project with a smaller scope.

PROJECT DESCRIPTION / SCOPE OF WORK

CMU is requesting a combination of state funds and cash funds spending authority to construct a 46,206-GSF addition to the permanent portion of the Maverick Pavilion, and to renovate 16,900 GSF within this permanent portion for use by the Kinesiology Department and other academic programs; once completed, the facility will also be used by athletics and intramural sports, and for special events. The expansion replaces a tent structure attached to the permanent portion of the Maverick Pavilion, which was installed in 2009 as temporary classroom space prior to the construction of the new Academic Classroom Buildings. The newly renovated and expanded Maverick Pavilion will feature:

- six basketball courts;
- a 2,700-GSF kinesiology instruction lab with court access, classroom space for 35 students and 5 instructors, and 5 training table stations;

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Kinesiology Renovation and Expansion

- a lobby;
- a cycling room;
- a climbing wall;
- support areas; and
- a running track on the second floor that will attach to the existing running track in the Maverick Center via a bridge.

To make way for the expansion, the temporary tent structure will be relocated for use by the Athletics Department under a separate cash-funded project.

Cost assumption. The cost assumption was determined through the program planning process. The campus architect based the project's costs on the university's recently completed Engineering Building, with costs escalated for time. The cost per square foot is \$376. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

CMU points to program growth, regional demand for physical and health sciences graduates, and the need for a permanent building over the portion of the Maverick Pavilion currently covered by a temporary structure as the drivers behind the renovation and expansion.

From 2013 to 2017, the number of students graduating with a bachelor's degree in Kinesiology grew from 48 to 79, or 65 percent; the number of Athletic Training graduates grew from 8 to 14, or 75 percent; and the number of Exercise Science graduates grew from 11 to 54, or 390 percent. The Kinesiology Department produces about 13 percent of all of the university's bachelor degrees. CMU says a lack of dedicated space for the department has resulted in its classes being spread across athletic, recreation, and academic classroom spaces. Due to the proximity of the Maverick Pavilion to the planned PA/PT/OT Center, students from the new Physician Assistant (PA), Physical Therapy (PT), and Occupational Therapy (OT) programs within the Kinesiology Department will use the lab space in the newly expanded pavilion. Space is also limited for the Athletics Department and intramural and club sports.

CMU installed the temporary tent structure attached to the permanent portion of the Maverick Pavilion in 2009 for use as classroom space; it has since seen use for student life activities. The university says it must replace the tent covering every few years at a cost of about \$2.0 million, and it will be more cost-effective in the long run to build a permanent structure in its place. The covering was last replaced in 2016 and it is already developing leaks, thus jeopardizing the permanent infrastructure underneath it. When this project is undertaken, the tent structure will be relocated for use as sun cover over practice fields, where leaking will not be an issue. In addition, the streets surrounding the Maverick Pavilion present a drainage problem during storms, resulting in basement flooding in nearby campus buildings. The university says it will not be able to permanently correct the drainage issue until a permanent hard structure is erected in place of the tent structure.

PROGRAM INFORMATION

Kinesiology is the study of movement, and within higher education the field studies the causes and consequences of physical activity in a multidisciplinary manner, covering areas ranging from sports medicine to psychology to physiology. CMU says the study of kinesiology can lead to a variety of careers in teaching, research, coaching, fitness, health promotion, rehabilitation, and sports medicine. CMU's Kinesiology program offers three bachelor's degrees, an associate's degree, two minors, and four graduate programs. The university expects the Kinesiology undergraduate programs to be feeders to its new Athletic Training, PA, PT, and OT programs, and a secondary feeder to its nursing programs.

The university's Athletics program consists of almost 800 student-athletes participating in 26 sports, while its club sports program consists of about 500 student-athletes participating in 30 sports. The intramural program consists of 3,000 participants.

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Colorado Mesa University

Kinesiology Renovation and Expansion

PROJECT SCHEDULE

Start Date	Completion Date
June 2020	July 2020
July 2020	August 2021
August 2021	August 2021
	August 2021

SOURCE OF CASH FUNDS

The source of cash funds for this project is campus reserves, institutional funds, and fund raising. The university notes that no student fee proceeds will be dedicated to the project.

OPERATING BUDGET

Operating expenses are paid from institutional sources. CMU estimates operating expenses at \$4.62 per square foot for the new space, or \$213,472 per year. The university says it has budgeted for these expenses.

STAFF QUESTIONS AND ISSUES

1. The request documents indicate that money will be needed for land acquisition. In FY 2019-20, CMU's request for this project included a land acquisition cost of \$409,146. This year's request includes a land acquisition cost of \$1,293,964. Please explain this change in land acquisition costs.

The siting for this building has shifted as planning becomes more refined. As a result, one more property related to this construction project will be involved in the site. The cost of this already purchased property is \$211k. CMU will consider this property, along with others, as part of our "other fund" match requirement for this project, as permitted by CDHE.

Fiscal Year 2020-21 Capital Construction Request

Colorado Mesa University

Electrical and Computer Engineering Building

PROGRAM PLAN STATUS

2020-037

Approved Program Plan? Yes

Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority
DeptInst	3 of 6
CCHE	24 of 39
OSPB	NP of 47

Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
CCF	\$0	\$22,637,849	\$0	\$0	\$22,637,849
Total	\$0	\$22,637,849	\$0	\$0	\$22,637,849

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
Land Acquisition	\$0	\$974,000	\$0	\$0	\$974,000
Professional Services	\$0	\$1,518,473	\$0	\$0	\$1,518,473
Construction	\$0	\$17,939,864	\$0	\$0	\$17,939,864
Equipment	\$0	\$1,025,000	\$0	\$0	\$1,025,000
Miscellaneous	\$0	\$148,901	\$0	\$0	\$148,901
Contingency	\$0	\$1,031,611	\$0	\$0	\$1,031,611
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$22,637,849	\$0	\$0	\$22,637,849

PROJECT STATUS

This project was first requested for funding in FY 2019-20. Colorado Mesa University (CMU) sought funding to construct a building for its Engineering and Computer Science programs in FY 2016-17. When the project was not funded, the university constructed the building using cash funds, rescoping the project to house the Engineering Department and the John McConnell Math and Science Center. The new building, now called Confluence Hall, opened in spring 2018.

PROJECT DESCRIPTION / SCOPE OF WORK

CMU is requesting a combination of state funds and cash funds spending authority to construct a three-story, 38,481-GSF academic building to house a new Electrical and Computer Engineering program and the existing Computer Science Department, and to provide space for growing engineering programs housed in the adjacent Confluence Hall. The new building will provide specialized learning space for several of the university's growing STEM programs, while freeing up vacated space for other growing disciplines.

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Colorado Mesa University

Electrical and Computer Engineering Building

The new building includes:

- eight group study rooms;
- a 1,200-GSF multipurpose classroom;
- four computer labs;
- four project labs;
- two team shops;
- 14 student/faculty interactive spaces;
- a conference room;
- specialty labs, including labs for Unix/Linux, radio frequency, power measurement, circuits, servers, welding, and robotics; and
- administrative support spaces.

Laboratory space features program-specific equipment and work stations to facilitate collaborative, hands-on learning. The new building also includes a bridge connecting it to Confluence Hall.

Cost assumption. The cost assumption was determined through the program planning process and by using the costs for building Confluence Hall, escalated for time. The cost per square foot is \$620. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

The university says its campus lacks sufficient space to accommodate the growth of several of its engineering and computer science disciplines, and the space currently dedicated to these programs is operating at maximum capacity and inadequate for the types of instruction involved. Growth in these programs is driven by workforce demand for engineers and other STEM graduates on the Western Slope and beyond. The building's location will also supplement a growing campus engineering and computer science nexus, and help to support partnerships with businesses located in a nearby enterprise zone. Finally, space vacated by programs moving to the new building will benefit other growing campus programs.

Project alternatives. CMU considered allocating space in Confluence Hall to new engineering programs, but this would have left the Computer Science Department in Wubben Hall, which is a third of a mile away, and would not have allowed for expansion of programs in Wubben. Confluence Hall's design reserved about 10,000 GSF to accommodate the Civil and Mechanical Engineering programs, but the addition of the Electrical and Computer Engineering program has outstripped the building's capacity. Finally, the university looked into renovating a nearby church for Electrical and Computer Engineering, but the building is not large enough to fit the entire program, and splitting the program between buildings would have created inefficiencies. The university says it may be able to phase the project.

PROGRAM INFORMATION

CMU offers five engineering degree options: Bachelors of Science degrees in Mechanical Engineering, Civil Engineering, Electrical and Computer Engineering, and Mechanical Engineering Technology; and an Associate of Applied Science degree in Mechanical Engineering Technology. The university says it is one of only a handful of universities in the nation that offers this array of degrees within a single department. Graduates of the new Electrical and Computer Engineering program will have comprehensive knowledge and experience in the concepts and design of electrical, electronic, and computer devices, circuits, and systems, as well as experience in software development, according to the university. The Computer Science Department offers a Bachelor of Science in Computer Science, an Associate of Science Liberals Arts Computer Science emphasis, and a Minor in Computer Science. CMU says colocating Computer Science with Electrical and Computer Engineering will lead to efficiencies, since the engineering field draws heavily on computer science principles.

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Colorado Mesa University

Electrical and Computer Engineering Building

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	August 2020
Construction	August 2020	June 2021
Equipment	June 2021	July 2021
Occupancy		July 2021

SOURCE OF CASH FUNDS

The source of cash funds for this project is campus reserves and fundraising. CMU notes that no student fee revenues will be used for the project.

OPERATING BUDGET

Operating costs are paid from institutional sources. CMU estimates that the new building will cost \$4.62 per square foot to operate, or \$177,782 per year, and has budgeted for the cost.

STAFF QUESTIONS AND ISSUES

All responses to staff questions were incorporated into the project write-up.

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Colorado Mesa University

Student Parking Garage

PROGRAM PLAN STATUS

2013-024

Approved Program Plan? Yes

Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority	
Dept/Inst	5 of 6	
CCHE	29 of 39	
OSPB	NP of 47	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
CCF	\$0	\$23,860,264	\$0	\$0	\$23,860,264
Total	\$0	\$23,860,264	\$0	\$0	\$23,860,264

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$2,404,436	\$0	\$0	\$2,404,436
Construction	\$0	\$19,938,188	\$0	\$0	\$19,938,188
Equipment	\$0	\$200,000	\$0	\$0	\$200,000
Miscellaneous	\$0	\$181,438	\$0	\$0	\$181,438
Contingency	\$0	\$1,136,202	\$0	\$0	\$1,136,202
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$23,860,264	\$0	\$0	\$23,860,264

PROJECT STATUS

This project was first requested for funding in FY 2019-20. Colorado Mesa University (CMU) requested cash funds spending authority in 2012 and 2016 to build a student parking garage, but the project was never initiated.

PROJECT DESCRIPTION / SCOPE OF WORK

CMU is requesting a combination of state funds and cash funds spending authority to construct a 265,000-GSF, five-level, 818-space parking garage on the eastern end of the main campus to alleviate a commuter student parking deficit that has been exacerbated by construction on former surface lots. The garage will be made of pre-cast concrete and feature a panelized façade with a masonry aesthetic to blend with the existing campus architecture. All levels will be above grade and access will be through stairs and elevators. The new structure will be built on the site of an existing surface parking lot.

Cost assumption. The cost assumption was determined through the program planning process, and by consulting with contractors with experience building similar facilities for other universities. These contractors indicate that CMU

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Colorado Mesa University

Student Parking Garage

can expect to pay \$22,000 per space for construction. A third-party review of the program plan was conducted by an architect, who concluded that the cost estimate for the project is consistent with current market conditions. The cost per square foot is \$96. The project meets the Art in Public Places and High-Performance Certification Program requirements.

PROJECT JUSTIFICATION

The CMU campus has a parking deficit of 699 spaces based on a demand analysis focusing on the commuter population, and will continue to have a 189-space deficit after the new parking garage is built. Surface parking lots have been lost due to construction of Confluence Hall and the development of the East/West Mall. CMU projects continued strong student population growth, both commuter and residential, particularly with the addition of several new academic programs. The university explains that there is limited land available near campus for expansion. A multi-level garage will allow vehicles to be consolidated into higher density parking, freeing up surface lots and parcels acquired by the university as sites for the construction of additional academic and residential facilities. The consolidation will also allow for easier parking enforcement.

Project alternatives. CMU considers building more surface parking lots to be the only alternative to the project, which the university does not consider the best use of available land. Additionally, the university says accelerated property acquisition will likely drive up land prices, and notes that surface parking lots are not optimal in terms of safety and campus aesthetics.

PROGRAM INFORMATION

The CMU main campus parking inventory includes two parking garages and 16 residential, 13 commuter, 4 mixed, 3 value, 2 reserved, 2 faculty, and 2 retail surface parking lots with a total of 4,266 spaces. The number of students enrolled full-time at CMU was 7,709 in the spring of 2019.

PROJECT SCHEDULE

Start Date	Completion Date
October 2020	November 2020
November 2020	November 2021
November 2021	December 2021
	December 2021

SOURCE OF CASH FUNDS

The source of cash funds for this project is university internal funds or fundraising.

OPERATING BUDGET

Operating expenses are paid from institutional sources. CMU estimates operating expenses at \$3.04 per square foot, or \$644,480 per year. The university says it has budgeted for these expenses.

STAFF QUESTIONS AND ISSUES

All responses to staff questions have been incorporated into the project write-up.

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Colorado Mesa University

Energy Independence at CMU

PROGRAM PLAN STATUS

2015-008

Approved Program Plan? Yes

Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority
DeptInst	4 of 6
CCHE	31 of 39
OSPB	NP of 47

Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
CCF	\$0	\$6,924,309	\$0	\$0	\$6,924,309
CF	\$0	\$684,823	\$0	\$0	\$684,823
Total	\$0	\$7,609,132	\$0	\$0	\$7,609,132

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$2,379,000	\$0	\$0	\$2,379,000
Construction	\$0	\$1,058,500	\$0	\$0	\$1,058,500
Equipment	\$0	\$3,600,000	\$0	\$0	\$3,600,000
Miscellaneous	\$0	\$9,632	\$0	\$0	\$9,632
Contingency	\$0	\$562,000	\$0	\$0	\$562,000
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$7,609,132	\$0	\$0	\$7,609,132

PROJECT STATUS

This is the sixth request for funding. Funding has been requested for the project each year since FY 2014-15, except for FY 2019-20, though the scope of this year's request has changed from prior year requests.

PROJECT DESCRIPTION / SCOPE OF WORK

Colorado Mesa University (CMU) is requesting state funds and cash funds spending authority to expand the campus-wide geo-exchange and solar panel systems for power generation. The geo-exchange system will provide a cleaner, more energy-efficient means of heating, cooling, and providing domestic hot water. The solar panel system installs 1.1MW of rooftop solar panels, 2,000 kWh battery capacity, and a 500 kW 2-way inverter/charger. This system will collect and store energy to be used during periods of peak demand, and will thereby allow CMU to avoid high demand charges.

For the geo-exchange system, the project will install an additional loop field, heat pumps, central loop systems, and

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Colorado Mesa University

Energy Independence at CMU

necessary hardware elements (vaults, pumps, valves, sensors, and controls). The new loop field will connect to existing loop fields, existing boilers, and cooling towers. The existing boilers and cooling towers will only be used to either add energy (boilers) or to take energy away (cooling towers) from the system during periods of peak demand.

The system will also connect the campus's irrigation ditch water to the geo loop via a heat exchanger (HX). As the Colorado River (irrigation water) flows by the campus, a series of vaults, pumps, filters, and open plate heat exchangers will be used to capture colder river temperatures to help modulate temperatures in the central loop. The existing diversion vault will be used to capture the water that is warmed up during this process so that it will be used on campus and not sent down stream. This system will be most effective in the springtime because the colder river temperatures will allow the geo-exchange system to pre-cool the ground and the loop fields between April and July. This will provide extremely efficient HVAC cooling on hot summer days. The system would then be used in the late fall to charge the loop fields for the winter. A cooling tower will also be added to help modulate temperatures in the central loop when the irrigation system is not being used.

CMU may submit later phases of the project that will convert every existing building from traditional heating and cooling systems to the more efficient heat pump systems; however, as a building's conversion requires the entire building to be off-line, CMU will need to take a phased approach to avoid shutting down large parts of campus at the same time.

Cost assumption. The cost assumption was determined through the planning process. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

The university says the additions to the geo-exchange system will improve the performance and safety of the existing system, which is at capacity. The system cannot currently meet the cooling demands of the connected load during peak demand. Campus electrical demand is also rapidly approaching the maximum capacity of the existing electrical feeds to the site from Xcel Energy. According to CMU, the combination of solar panel system and battery storage is crucial to avoiding a costly new electrical feed to the campus.

Project alternatives. The university formerly submitted this project with a significant trigeneration component in lieu of geo-exchange and solar power generation. CMU says it has returned to focus on geothermal and solar as the economics of green energy sources have changed. The university also considered extending an additional electrical feed to the main campus, though CMU does not favor this option as it would not reduce CMU's dependence on traditional energy sources.

PROGRAM INFORMATION

The university consumes approximately 23.5 million kilowatt-hours of electricity per year, with a peak demand low of 3,055 kilowatts in the winter months and a high of 4,298 kilowatts during the summer. Xcel Energy is the campus energy provider, and the university employs several "green" technologies in its energy portfolio.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	September 2020
Construction	September 2020	August 2023
Equipment		
Occupancy		August 2023

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Colorado Mesa University

Energy Independence at CMU

SOURCE OF CASH FUNDS

The source of cash funds for the project is institutional reserves and fundraising.

OPERATING BUDGET

Operating expenses are paid from institutional sources. According to the university, increased operating costs resulting from hiring highly skilled technical support staff will be offset by long-term energy savings. See the response to question number 2 in staff questions and issues for further information on these savings.

STAFF QUESTIONS AND ISSUES

1. When this project was last submitted, CMU indicated that the additional electrical feed from Xcel Energy would provide power for an expanding campus and will be needed at some point in the future, regardless of the decision to fund the Energy Independence project. Is this still the case? If so, when is it estimated that the new Xcel feed will be necessary? Is the cost for the new Xcel feed still expected to be \$1.0 million? Please describe any recent discussions with Xcel about a new campus electrical feed.

Recent discussions with Xcel have presented concerns about having two separate electrical services for the CMU campus. Xcel Energy has presented the following alternative options.

- 1. Option 1 – Install a new utility source further west of the new lineup with metering that will allow CMU to cable back to the existing lineup.*
- 2. Option 2 - Same as 1 but re-route utility cabling from existing lineup to new lineup.*
- 3. Option 3 - Add switch bay to the existing CMU lineup with CMU cabling to the new lineup. No utility work required.*
- 4. Option 4 - Install a new 600A primary meter cabinet that is sourced with relocated utility feed.*
- 5. Option 5 – Install new sectionalized switch near 7th and Elm and new electrical service near the Confluence Hall Building.*

After discussing the pros and cons of each option, it was decided to proceed with option 5. Xcel Energy expressed its concern about connecting the two services together but agreed that option 5 was still acceptable. It was agreed to provide as much separation as possible between the two primary services to avoid the possibility of connecting the two services by mistake. It was proposed to identify each new loop or portions of a loop with the source and origin of the feeder conductors to prevent future projects from connecting two separate utility power sources by mistake. This option will provide the necessary capacity to support the PA/OT/PT building and other needs for the foreseeable future. The cost of this option is estimated to be \$1.3 million.

2. What amount of cost savings does the university anticipate annually as a result of this project?

1.1MW of rooftop solar photovoltaic, 2,000 kWh of battery capacity, and 500 a kW 2-way inverter/charger will provide an estimated 1,828,620 kWh/yr with an estimated savings of \$174,751.23 - \$195,583.23/yr. Other measures could provide annual savings of \$90,666.67 - \$36,266.67/ yr. This gives the payback time of the solar panels as 24 years. With panels lasting 25-30 years, the payback time is not substantially shorter than the life of the panels, but rather provide a green and sustainable energy source during a period when other energy sources may become more expensive.

3. Does CMU anticipate adding additional loops in the future? If so, when does the university expect to need additional loops?

CMU has recently added a new geo loop field under the practice track that has yet to be connected to the central loop. This geo loop field has 45 boreholes at 500 ft deep for a total loop field size of 22,500 sf. There are plans to add a second geo loop field, similar in size, to the parking lot adjacent to student housing in the summer of 2020. The university will still need additional loop field capacity for the added loads of PT/OT, ECE, and future student housing as well as for any other growth in the future.

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PROGRAM PLAN STATUS

2016-044

Approved Program Plan?

Yes

Date Approved:

July 17, 2016

PRIORITY NUMBERS

Prioritized By	Priority
DeptInst	6 of 6
CCHE	34 of 39
OSPB	NP of 47

Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
CCF	\$0	\$4,856,177	\$28,886,536	\$0	\$33,742,713
Total	\$0	\$4,856,177	\$28,886,536	\$0	\$33,742,713

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$0	\$2,469,864	\$975,000	\$0	\$3,444,864
Construction	\$0	\$2,028,046	\$24,937,658	\$0	\$26,965,704
Equipment	\$0	\$165,000	\$1,635,000	\$0	\$1,800,000
Miscellaneous	\$0	\$16,427	\$201,995	\$0	\$218,422
Contingency	\$0	\$176,840	\$1,136,883	\$0	\$1,313,723
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$4,856,177	\$28,886,536	\$0	\$33,742,713

PROJECT STATUS

This is the sixth request for funding. Funding has been requested for the project each year since FY 2015-16.

PROJECT DESCRIPTION / SCOPE OF WORK

Colorado Mesa University (CMU) is requesting a combination of state funds and cash funds spending authority to renovate 12,379 GSF in the Moss Performing Arts Building and construct a 42,550-GSF addition to the building. The project will provide teaching, practice, and performance space in support of undergraduate music and theater programs. The project fully renovates Robinson Theatre, located inside the Moss Performing Arts Building, to improve safety conditions and meet current seismic codes.

The renovation and expansion of the Moss Performing Arts Center will also feature:

- a dance studio/theater;
- theater instruction and rehearsal space;

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- prop storage;
- dressing rooms;
- an acting studio;
- a theater design studio;
- renovated scene and costume shops;
- lighting and acoustic improvements in Love Recital Hall;
- support space for Moss Experimental Theatre;
- a theater lobby; and
- a four-room, multi-disciplinary and flexible academic instruction space that can be combined into one room.

The renovations to Moss will replace outdated performing arts lighting and stage communication systems, and address vibration and acoustical deficiencies. These improvements will help alleviate the Music Department's encroachment on Theater Department space in Moss. The new classroom space will allow the university to expand a new, team-taught, three-credit-hour, general education course called the Maverick Milestone for students midway through their program requirements, along with its co-requisite course, Essential Speech. These courses require students to integrate what they have learned in their general education courses, and to demonstrate written and oral communication proficiency.

Cost assumption. The cost assumption was determined through the program planning process. Costs were based on the university Academic Classroom Building II project. The cost per GSF for all phases of the project is \$615. The project accounts for future inflation, and meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to the university, the project will improve safety for building users, providing them with a more welcoming and supportive facility; improve student recruitment by supporting the growth of the university's arts programs; provide uniquely designed academic instruction space to meet the needs of diverse and growing program areas; and improve the facility's energy use.

The university says growth in the programs that will be affected by the project is driving the need for new instruction space. Specifically, enrollment in the Music Department grew from 98 majors in 2013-14 to 136 majors in 2017-18. Moss Performing Arts provides about 89 GSF per theater student while guidelines recommend an average of 200 GSF per student, which puts the center 24,000 GSF short of the guidelines. The university says these limitations have an impact on student recruitment and retention.

According to CMU, the project will benefit the whole campus community, because it improves academic classroom space for multiple degree programs, and reduces use of space in other buildings by the Music and Theater Departments. CMU says growth in the Music Department has increased its space usage in the Moss Performing Arts Center, limiting the ability of the Theater Department to use the space. The renovated and expanded Moss Center will feature technology specifically suited for the performing arts, while the design will allow for flexibility to accommodate other academic needs. In addition, the project will create appropriate space for speech courses, which are currently located in rooms not designed for the curriculum.

PROGRAM INFORMATION

Founded in 1925, CMU offers liberal arts, professional, and technical programs at the certificate, associate, baccalaureate, and graduate degree levels. The university specifically emphasizes increasing the level of educational attainment for the residents of its 14-county region in Western Colorado.

Moss Performing Arts supports four bachelor's degree programs and one minor in music; three bachelor's of fine arts programs, two bachelor's programs, three minors in theater, dance, and speech; and integrated learning programs. Moss also hosts between 15,000 to 20,000 visitors per year, and the Music Department offers three summer camps

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for students. CMU student club and community theater events are also hosted in Moss.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	December 2020
Construction	January 2021	June 2021
Equipment	June 2021	August 2021
Occupancy		August 2021

SOURCE OF CASH FUNDS

The source of cash funds for the project is a combination of institutional reserves and fundraising.

OPERATING BUDGET

Operating expenses are paid from institutional sources. CMU estimates operating expenses at \$4.62 per square foot for the new space, or \$61,459 per year.

STAFF QUESTIONS AND ISSUES

All responses to staff questions have been incorporated into the project write-up.