

Fiscal Year 2020-21 Capital Construction Request

University of Colorado Denver

Anschutz Health Sciences Building

PROGRAM PLAN STATUS

2015-014

Approved Program Plan? Yes

Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority	
Dept/Inst	1 of 3	
CCHE	3 of 39	
OSPB	16 of 47	Recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2020-21	FY 2021-22	Future Requests	Total Cost
CCF	\$32,193,892	\$21,859,241	\$0	\$0	\$54,053,133
CF	\$187,988,608	\$0	\$0	\$0	\$187,988,608
Total	\$220,182,500	\$21,859,241	\$0	\$0	\$242,041,741

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	\$32,270,515	\$0	\$0	\$0	\$32,270,515
Construction	\$170,987,669	\$0	\$0	\$0	\$170,987,669
Equipment	\$5,570,735	\$19,255,920	\$0	\$0	\$24,826,655
Miscellaneous	\$1,790,360	\$1,562,405	\$0	\$0	\$3,352,765
Contingency	\$9,563,221	\$1,040,916	\$0	\$0	\$10,604,137
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$220,182,500	\$21,859,241	\$0	\$0	\$242,041,741

PROJECT STATUS

This is a continuation project. The project received state funds and cash funds spending authority for FY 2018-19 and FY 2019-20. The project also received cash funds spending authority for FY 2017-18 to design the project, and cash funds spending authority in June 2019 for a separate project under the two-year cash need list process to complete basement shelled space for specialized labs. For this year's request, the University of Colorado Denver (CU Denver) has requested state funding for the full \$21.9 million, while the Governor's Office of State Planning and Budgeting has recommended \$7.0 million in state funding, with the remaining cost being funded through university cash funds.

An amendment to the project's program plan approved in June 2015 increased the scope of the project from 72,000 GSF to 220,000 GSF, and expanded the number of centers, departments, and units to be housed by the new facility from 3 to 14. A second program plan amendment approved in June 2017 increased the scope of the project from 220,000 GSF to 390,914 GSF, and expanded the number of units to be housed in the building from 14 to 33. On August 21, 2017, the committee approved \$32.3 million in cash funds spending authority to initiate design and preconstruction on the project. The university says efficiencies discovered during design have allowed it to add two units to the scope of the project, bringing the total to 35.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado Denver

Anschutz Health Sciences Building

PROJECT DESCRIPTION / SCOPE OF WORK

The CU Denver Anschutz Medical Campus is requesting a combination of state funds and cash funds spending authority for the final phase of a three-phase project to construct a new, ten-story, 390,914-GSF Anschutz Health Sciences Building on land currently occupied by a parking lot. The building was formerly called the Colorado Center for Personalized Medicine and Behavioral Health. This year's request for Phase III will finish equipping and furnishing the building. Phase I initiated construction, including site remediation and core and shell construction, and Phase II completes construction and initiates interior build-out, commissioning, and equipment. The university designed the project using cash funds. A 100-foot pedestrian bridge and a basement will connect the new building to Research Tower II. The first five floors of the building will be connected by a central atrium intended to facilitate occupant collaboration. The new building will house the following functions and features:

- a new tier 3 data center, along with four IT staff workstations (8,643 GSF);
- the Colorado Center for Personalized Medicine (CCPM), (55,717 GSF);
- Behavioral Health, including education, research, and clinical space for the School of Medicine, the Colorado School of Public Health, and the University of Colorado Hospital (62,130 GSF);
- the Colorado Clinical and Translational Sciences Institute (CCTSI), including education, training, career development, laboratory and imaging services, and clinical and translational spaces (31,378 GSF);
- the Simulation Educational HUB, under the Center for Advanced Professional Education (CAPE), including operating room and emergency response/trauma simulation labs and debriefing rooms, patient exam rooms, and skills labs/classrooms (21,694 GSF);
- the Adult and Child Consortium for Health Outcomes Research Delivery Science (ACCORDS), including education, career development, research and training, and community engagement spaces;
- Life Course Epidemiology of Adiposity and Diabetes (LEAD), including education, research and clinical, and community engagement spaces (16,918 GSF);
- office and support space, including 160 clinical faculty offices, 57 research faculty offices, support staff offices and workstations, and conference and meeting rooms (52,888 GSF);
- auxiliary space, including three 150-seat active learning classrooms, a café, health science exhibit space, individual and group study classrooms, and event space (100,235 GSF); and
- basement space for a vivarium (28,556 GSF).

The new building will help the university develop the next generation of groundbreaking therapies and interventions, according to CU Denver. The goal of the CCPM is to integrate predictive, personalized, preventative, and participatory medicine into CU's existing healthcare delivery system. The new building will be the university's home for medical informaticists who work with patient records, bioinformaticists who work with DNA sequence data, computational biologists who develop analytic algorithms, and other medical professionals focused on the application and implementation of personalized medicine, which is the tailoring of medical treatments to individual patients.

The Simulation Educational HUB will allow the university to simulate real-world clinical settings that support the health sciences curriculum and continued professional development without risking patient lives. CU Denver says simulation is a critical curriculum tool that is increasingly used by academic health sciences centers nationwide.

Space dedicated to the Behavioral Health mission will provide education, research, and patient care areas to address mental health and substance abuse issues. Departments to be housed in this space include Psychiatry, Family Medicine, and the Colorado School of Public Health. CCTSI's mission is to improve health and reduce health disparities by accelerating prevention and treatment discoveries and by training clinical and translational investigators. Translational research uses resources, expertise, and techniques from across various health care disciplines to convert basic scientific findings into potential treatments.

The new data center will enable the university to provide reliable, available, and maintainable computing services to over 22,000 faculty, staff, and students across the entire campus. According to the university, data centers typically quantify their operations using a tier system of 1 through 4 as defined by the American National Institute of Standards and the Telecommunications Infrastructure Standards. Tier 1 is the most basic type of server room and tier 4 is the most complex, mission-critical server system; tier 3 is selected by most modern data centers.

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University of Colorado Denver

Anschutz Health Sciences Building

Cost assumption. The cost assumption was determined through the program planning process. The cost per GSF is \$619, including the cash funds already approved for design and preconstruction. 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

CU Denver says it has experienced continued growth in student enrollment and the number of faculty and staff. The university reports that, in the last 11 years, health professional student enrollment has grown by over 75 percent, while total faculty has more than doubled. The total campus population has grown by over 59 percent since 2001. The functions to be housed in the new building are particularly poised for growth. Additionally, rapid changes to health care and health sciences education and research have led to the creation of new programs, centers, and institutes. This has resulted in an increasing space deficit, especially for specialized space, such as the CCPM, the Simulation Educational HUB, and the Data Center. The 2012 Anschutz Medical Campus Facilities Master Plan documents the 658,164-GSF space deficiency that exists for the campus. The functions comprising the CCPM are housed in various facilities across campus, leading to the displacement of faculty, staff, and students. The project co-locates four departments, divisions, and centers that comprise CCPM. It also co-locates 21 units of similarly dispersed Behavioral Health programming.

The university says the existing simulation facilities are small compared to peer institutions and overused, and have no capacity for expansion. Furthermore, the labs do not replicate the size and configuration of the operating and emergency rooms found in today's hospitals, and the patient practice rooms are inadequate to accommodate student assessments. According to CU Denver, the new Simulation HUB will accommodate enrollment growth, improve operational efficiencies, and allow the university to repurpose the existing simulation space.

Occupying only 500 ASF and 25 years old, the university says the existing data center in Building 500 is too small for its mission and is obsolete, with no room for future expansion. The existing server room is unreliable and not energy efficient, and these limitations are creating a computing-demand deficiency for the university. The university says that data access, storage, and delivery are critical to modern academics, research, and clinical care.

Project alternatives. The university considered constructing multiple smaller, dedicated buildings for each need, but it was determined that combining programs with interdisciplinary functions would be more beneficial, allowing for a more appropriately sized building, generating economies of scale, and creating an infill project at a central campus location. The university also considered leasing equivalent space off campus, but it deems this alternative to be costly and undesirable considering the level of technology and specialty design that is required for modern medical research and instruction. CU Denver notes that the project will allow it to save money on annual lease costs as programs move to the new building. Finding existing space on campus for the programs to be housed in the new building is also undesirable, since existing space is at a premium and ill-suited for program mission, and program collaboration would continue to be hindered by the dispersal of various units across the campus. Slowing or halting program growth would stifle innovation and could jeopardize patient care.

PROGRAM INFORMATION

The University of Colorado Denver Anschutz Medical Campus is a 217-acre campus located on the former Fitzsimons Army Medical Center in northwest Aurora. The University of Colorado Denver occupies about 3.0 million GSF of the Anschutz campus, which is devoted to research, education, clinical activities, a library, and administrative space. The University of Colorado Hospital occupies the remaining 1.8 million GSF of the campus.

In 2012, the University of Colorado Hospital, Children's Hospital, CU Medicine, and the Colorado School of Medicine committed \$100 million to the creation of the CCPM. The center was created in 2015, and works at the intersection of information science, computer science, social science, behavioral science, and health care projects, such as deciphering the human genome.

The university considers behavioral health a top campus priority, and the building will bring researchers together to develop new approaches for identifying and treating mental illness and addiction, to study root causes, to make use of emerging technologies, and for suicide prevention initiatives.

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University of Colorado Denver

Anschutz Health Sciences Building

PROJECT SCHEDULE

	Start Date	Completion Date
Design	November 2017	April 2019
Construction	January 2019	May 2020
Equipment	June 2020	June 2021
Occupancy		August 2021

SOURCE OF CASH FUNDS

The source of cash funds for the project is campus reserve funds; gifts, grants, and donations; and university debt issuance.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university anticipates the project to increase annual operating expenses by \$21 per square foot.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Hellems Arts and Sciences Building Renovation and Mary Rippon Outdoor Theatre Renovation

PROGRAM PLAN STATUS

2004-120

Approved Program Plan? Yes No

Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	1 of 5	
CCHE	7 of 39	
OSPB	33 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	\$3,228,657	\$10,183,554	\$20,000,464	\$33,412,675
CF	\$0	\$4,842,986	\$15,275,332	\$30,000,695	\$50,119,013
Total	\$0	\$8,071,643	\$25,458,886	\$50,001,159	\$83,531,688

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	\$7,182,864	\$1,589,364	\$3,180,096	\$11,952,324
Construction	\$0	\$105,807	\$19,884,143	\$39,021,630	\$59,011,580
Equipment	\$0	\$0	\$1,450,071	\$2,814,842	\$4,264,913
Miscellaneous	\$0	\$49,186	\$220,864	\$439,031	\$709,081
Contingency	\$0	\$733,786	\$2,314,444	\$4,545,560	\$7,593,790
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$8,071,643	\$25,458,886	\$50,001,159	\$83,531,688

PROJECT STATUS

This is the ninth request for funding. Funding was requested on behalf of the project for FY 2003-04, FY 2006-07, FY 2009-10 through FY 2011-12, and FY 2017-18 through FY 2019-20. The project has been listed on the university's five-year projection of need in the intervening years. Previous years' requests have been for a capital renewal project. A new program plan for the project published in May 2017 rescoped the project to combine the capital renewal elements with a number of program-driven renovations.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU Boulder) is requesting a combination of state funds and cash funds spending authority for the first phase of a four-phase project to address concerns with various electrical and mechanical systems within the 95,065-GSF Hellems Arts and Sciences Building, and to renovate the building's interior to address programming needs. The university says the project will preserve and protect the nearly 100-year-old building, which is structurally sound but requires modernization and interior reorganization to address life-safety and code issues and to more efficiently accommodate academic needs. The scope of the project includes improvements to the adjacent Mary Rippon Outdoor Theatre. This year's request for Phase I will design the project, while each subsequent phase will renovate one of the building's three wings.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Hellems Arts and Sciences Building Renovation and Mary Rippon Outdoor Theatre Renovation

The building assessment will include a materials test and an asbestos and environmental report.

Deferred maintenance to be addressed by the project includes:

- replacing the exterior windows and rehabilitating exterior doors;
- installing a new HVAC system, including associated duct work, grills, shafts, and controls, and integrating a cooling system into the building to enhance year-round building use;
- replacing the electrical system distribution;
- fire-alarm additions and modifications, and upgrading associated safety features;
- upgrading electrical panels;
- replacing interior lighting fixtures;
- roofing improvements, including replacing roof underlayment; insulating the roof underside; restoring damaged gutters and downspouts; and testing, and possibly abating, hazardous materials;
- abating hazardous materials in surfaces and finishes in the building's interior;
- exterior masonry repointing and cleaning;
- foundation waterproofing;
- restoring exterior flagstone stairs;
- providing ADA-accessible restrooms with new fixtures;
- correcting stair enclosures for better life-safety accessibility and ADA compliance; and
- updating finishes throughout the building's interior.

Interior renovations to improve program delivery include resizing of office space to create additional classroom space, and reconfiguring the building's layout for operational and energy efficiency purposes. Upgrades to the Mary Rippon Outdoor Theatre will address functionality, safety, and ADA issues. Considering the age of the facility, both interior and exterior improvements will conform to the building's historical character.

Cost assumption. The cost assumption was determined through the program planning process. The cost per GSF is \$836. A 5.0 percent inflation factor is applied to the project cost based on the recent regional inflation index. Project costs were reconfirmed in April 2019. The project meets the Art in Public Places and High Performance Certification program requirements.

PROJECT JUSTIFICATION

CU Boulder says the project upgrades a facility that is structurally sound in order to address repairs and renovations necessary for code and ADA compliance, energy efficiency, and program functionality. According to the university, upgrading the systems within the Hellems Arts and Sciences Building will significantly improve building operational deficiencies, reduce negative environmental impacts, save energy and utility costs, and contribute to occupant safety. In addition, the university says the upgrade will greatly enhance occupant comfort and program delivery.

A facility audit conducted in 2019 gave the Hellems Arts and Sciences Building a Facility Condition Index rating (FCI) of 27, well below the Office of the State Architects' target rating of 85 for state buildings. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. Upon completion of the project the building is expected to have an FCI in the range of 90 to 95. The audit cited major deficiencies in functionality, building integrity, building and fire code compliance, and hazardous materials contamination for asbestos. Minor deficiencies were reflected in appearance, access, energy systems, and exterior systems.

According to the university, programmatic reconfigurations will increase operational efficiency, with high-traffic classroom areas placed on the main level and center of the building for ease of student access, and office areas and graduate student suites outside the high-traffic areas. Resizing the offices will allow the university to gain office space. CU Boulder says failure to fund the project will continue to severely affect the quality of the education delivered to over 40 academic programs.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Hellem's Arts and Sciences Building Renovation and Mary Rippon Outdoor Theatre Renovation

PROGRAM INFORMATION

The Hellem's Arts and Sciences Building (Hellem's) is a three-story building, with a full basement, containing classrooms, academic offices, and lecture halls. The central portion of the building was constructed in 1921, with two wings added in 1937. The building was designed by Charles Z. Klauder in the Tuscan Vernacular style, which the university says the campus is known for internationally, and comprises part of a national historic district.

The university conducts core curriculum coursework in Hellem's, and the university says that about half of freshmen students took a course in the building in academic year 2018-19, and 86.0 percent of those receiving bachelor's degrees in 2017-18 took at least one course in Hellem's at some point. Components of several departments are housed in the building, including English, History, Linguistics, and Philosophy, along with the ALTEC Language Lab and the College of Media, Communication, and Information. An additional 37 academic departments use the teaching spaces in the building.

The Mary Rippon Outdoor Theatre hosts the annual Shakespeare Festival, which is staged from Hellem's.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	October 2023
Construction	October 2021	November 2024
Equipment		
Occupancy		December 2024

SOURCE OF CASH FUNDS

The source of cash funds for the project is campus cash funds, primarily derived from various uncommitted, unrestricted net assets for program improvements.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the project to result in no new operating costs.

STAFF QUESTIONS AND ISSUES

1. Since the project's phasing is based upon performing the renovations one wing at a time, is it possible that renovation of a wing could be a stand-alone project (i.e. - a wing could be completed and usable without continuation funding)?

The project could be executed via three stand-alone phases, but this is not a cost-effective approach. It would likely require us to design and build building systems (HVAC, plumbing, electrical, fire/smoke separation, etc.) in ways that are not efficient to maintain over the long term. Additionally, this approach would add significant costs to mobilize and demobilize each phase of the project and would limit opportunities for other project cost efficiencies.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado Denver

Engineering and Physical Sciences Building Renovation

PROGRAM PLAN STATUS

2015-061

Approved Program Plan? Date Approved:

PRIORITY NUMBERS

<u>Prioritized By</u>	<u>Priority</u>	
Dept/Inst	2 of 3	
CCHE	9 of 39	
OSP/B	36 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	\$4,900,978	\$20,817,615	\$12,022,860	\$37,741,453
CF	\$0	\$14,702,933	\$20,817,615	\$3,796,693	\$39,317,241
Total	\$0	\$19,603,911	\$41,635,230	\$15,819,553	\$77,058,694

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	\$10,331,628	\$0	\$0	\$10,331,628
Construction	\$0	\$8,276,688	\$31,646,519	\$12,109,050	\$52,032,257
Equipment	\$0	\$0	\$6,964,358	\$1,947,791	\$8,912,149
Miscellaneous	\$0	\$62,075	\$1,041,723	\$324,571	\$1,428,369
Contingency	\$0	\$933,520	\$1,982,630	\$1,438,141	\$4,354,291
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$19,603,911	\$41,635,230	\$15,819,553	\$77,058,694

PROJECT STATUS

This is the fifth request for funding. Funding on behalf of the project has been requested each year since FY 2016-17. A 2017 program plan amendment moved the planned location of the new building from adjacent to the North Classroom Building to southeast of the Science Building, facing Speer Boulevard.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado Denver (CU Denver) is requesting a combination of state funds and cash funds spending authority for the first phase of a three-phase project that constructs a 60,000-GSF, three-story academic building adjacent to the Auraria Science Building on the Auraria Higher Education Center (AHEC) campus, and renovates 38,368 GSF in the nearby North Classroom Building. CU Denver says the project will allow for growth and consolidation of the College of Engineering, Design, and Computing (CEDC) in a new, state-of-the-art facility, and will update existing space for use by the College of Liberal Arts and Sciences (CLAS).

The new building will include instructional labs, high-bay labs for the testing of large-scale projects, computer labs, research labs, classrooms, academic offices, and support space for CEDC. Approximately 80 percent of the assignable area within the new building will be used for instructional purposes, while the remaining 20 percent will be

Fiscal Year 2020-21 Capital Construction Request

University of Colorado Denver

Engineering and Physical Sciences Building Renovation

used for academic support and service functions. The new building will provide space for the following departments and functions:

- Civil Engineering (1,784 ASF);
- Electrical Engineering (6,408 ASF);
- Mechanical Engineering (6,930 ASF);
- Computer Science and Engineering (5,661 ASF);
- Bioengineering (1,620 ASF);
- other class and open labs (3,910 ASF);
- student services (3,527 ASF);
- IT/facilities space (1,120 ASF); and
- Interdisciplinary Innovation Hub (5,040 ASF).

The space currently used by CEDC in the North Classroom Building will be vacated and renovated for use by CLAS. Relocating disparate CLAS departments to the North Classroom Building will consolidate faculty and students within CU Denver's neighborhood on the Auraria campus. The renovations will include 21,000 ASF for a CLAS Student Success Hub, which the university says will serve as a "one stop" center where students in its largest college can find the support resources they need to succeed. CEDC will also relocate some functions that are currently housed in the Boulder Creek and Administration Buildings. Space will also be freed up in three other university buildings as a result of the programming consolidations that will take place under the project.

Cost assumption. The cost assumption was determined through the program planning process. The university's Facilities Projects Department used costs from recently completed projects for its estimates, inflated to the year of construction, along with industry data. The cost per GSF for both the renovation and new construction is \$746. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to CU Denver, the project addresses critical instructional space challenges by replacing obsolete, heavily used lab and classroom space for growing programs with state-of-the-art, larger, and more innovative environments, and by renovating outdated space in the North Classroom Building. The university says the new lab space will vastly improve the current CEDC labs, some of which have had no improvements in the last 20 years. CU Denver also says that the programs impacted by the project have seen significant enrollment growth in recent years, and that space occupied by these programs is dispersed across several areas, making collaboration among students and faculty very challenging.

CU Denver says the current facilities that house CEDC and CLAS programs are severely overcrowded and overutilized, and do not have capacity to grow. CEDC has experienced undergraduate application growth of 40 percent from 2015 to 2017, but the program has reached maximum facility capacity and enrolls only a fraction of applicants. The deficiency of research space has made the recruitment and retention of faculty and graduate students difficult. The college has also been unable to fully support opportunities for undergraduate research. The university projects that CEDC will grow by 59 percent over the next ten years. CLAS freshman enrollment grew nearly 80 percent from 2010 to 2016, and undergraduate and graduate enrollment is expected to grow another 8 percent by 2025.

According to CU Denver, space occupied by CEDC and CLAS in the North Classroom Building is obsolete and does not meet modern teaching and research needs. Issues with the labs include deficient HVAC systems, outdated audio/visual equipment, poor visibility for students, and dated furnishings. Additionally, many of the lab spaces were not originally built as labs and do not effectively advance engineering instruction or investigation. Numerous code issues exist in the building related to fire safety, emergency lighting, the building's generator, and compliance with the Americans with Disabilities Act. Furthermore, the distribution of CEDC and CLAS programs across the AHEC campus, in downtown Denver, and on the CU Anschutz Medical Campus impedes collaboration and interdisciplinary learning, according to the university.

Project alternatives. CU Denver says the demand for additional labs and support spaces can only be met through

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University of Colorado Denver

Engineering and Physical Sciences Building Renovation

new construction or the lease of comparable space off-campus. According to the university, leasing off-campus space would be more costly. When modeled over a 25-year timeframe, the university estimates the total life-cycle costs of leased space to be \$6.0 million more than the construction of a new facility. Furthermore, it is unrealistic to find leasable space with the specialized needs of engineering research labs within close proximity to campus, according to CU Denver. The university also considered five alternate sites for the new building, but the preferred site proved to be the best for reasons ranging from cost to poor access to displacement of other programs.

PROGRAM INFORMATION

CEDC at CU Denver offers undergraduate and graduate programs in bioengineering, civil engineering, electrical engineering, mechanical engineering, and computer science and engineering. Graduate programs include master of science, master of engineering, and doctor of philosophy degrees. CEDC also offers professional training and continuing education classes on engineering topics. CLAS offers numerous undergraduate and graduate degrees in the humanities, natural and physical sciences, social sciences, and integrated sciences. CU Denver notes that CEDC and CLAS enroll 55 percent of all students at the university.

AHEC is comprised of three separate higher education institutions, the Community College of Denver, Metropolitan State University of Denver, and CU Denver, all of which share classroom space, parking, and general services on the campus. AHEC manages campus facilities and non-academic functions, including the library, the child care center, classroom and event scheduling, and campus police and security.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	July 2021
Construction	August 2021	July 2023
Equipment	July 2023	August 2023
Occupancy		September 2023

SOURCE OF CASH FUNDS

The source of cash funds for the project is gifts, grants, campus cash, and debt.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects operating costs to increase by \$781,200 per year as a result of the new building's construction.

STAFF QUESTIONS AND ISSUES

1. Has the university initiated a fundraising campaign for the project, or sought grants to fund the project? If so, what is the status of these activities?

CU Denver leadership has identified the building as a top fundraising priority. A consultant is completing work on a comprehensive plan for fundraising, including naming levels and prospect identification. Materials about the building are being circulated among prospective donors and community members, and an event has been held to draw attention to the project.

Some of the fundraising accomplishments to date include:

- an investment from Lockheed Martin to support a program in 3D printing for aerospace manufacturing;*

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University of Colorado Denver

Engineering and Physical Sciences Building Renovation

- *a pledge to name a space in the building;*
- *a pending multi-million dollar pledge to create a new lab in existing space; and*
- *additional prospects for seven-figure gift opportunities.*

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Guggenheim Geography Building Renovation

PROGRAM PLAN STATUS

2008-056

Approved Program Plan? Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	2 of 5	
CCHE	22 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	\$1,098,802	\$9,966,637	\$0	\$11,065,439
CF	\$0	\$1,648,204	\$14,949,956	\$0	\$16,598,160
Total	\$0	\$2,747,006	\$24,916,593	\$0	\$27,663,599

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	\$2,461,246	\$1,929,808	\$0	\$4,391,054
Construction	\$0	\$0	\$19,198,655	\$0	\$19,198,655
Equipment	\$0	\$0	\$1,358,197	\$0	\$1,358,197
Miscellaneous	\$0	\$43,451	\$249,153	\$0	\$292,604
Contingency	\$0	\$242,309	\$2,180,780	\$0	\$2,423,089
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$2,747,006	\$24,916,593	\$0	\$27,663,599

PROJECT STATUS

This is the third request for funding. Funding was first requested for FY 2018-19. Elements of the project have appeared on the University of Colorado at Boulder's (CU Boulder) five-year projection of need as a capital renewal project since 2006. A June 2017 program plan changed the scope of the project to include programmatic renovations.

PROJECT DESCRIPTION / SCOPE OF WORK

CU Boulder has requested a combination of state funds and cash funds spending authority for the first phase of a two-phase project to renovate the 22,908-GSF Guggenheim Building. The project combines \$11.1 million in capital renewal system upgrades with \$16.6 million in academic and programmatic improvements. The university says the project will revitalize an antiquated building with a low Facilities Condition Index (FCI) rating and facilitate greater operational and energy efficiency. This year's request for Phase I will design the project, while Phase II will perform the renovations.

CU Boulder says the capital renewal elements of the project will address the following systems and issues in the Guggenheim Building:

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University of Colorado at Boulder

Guggenheim Geography Building Renovation

- asbestos contamination;
- elevator motors;
- the electrical system, including the transformer, panel boards, and feeder;
- exterior windows, including skylights;
- fire-rated doors, fire alarm systems, fire-rated wall penetrations, and additional fire exits;
- the HVAC system, including installing air conditioning in the building;
- lighting systems;
- plumbing and the sanitary waste system;
- roofing, gutters, and soffits;
- telephone and data systems;
- utility distribution lines; and
- wood carpentry, including interior doors and associated hardware.

The project also performs programmatic renovations of the building's interior by resizing offices, reconfiguring the classrooms and offices to consolidate tenants, and upgrading corridors and the overall building layout to improve traffic patterns.

Cost assumption. The cost assumption was determined through the program planning process, which relied upon campus costs for the recently completed Ketchum Arts and Sciences Renovation project. The Ketchum project was similar to the Guggenheim project in that it revitalized an historic building with structural integrity that needed renewal of its basic building systems. The cost per GSF is \$1,208. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to CU Boulder, the Guggenheim Building, which is more than 100 years old, has received minimal improvements over the years and requires an overhaul of its systems to address life-safety, code, deferred maintenance, and tenant comfort issues. Program-based renovations will consolidate the scattered Department of Geography, increase the operational efficiency of the building, and provide modern facilities in support of the social science programs housed in the building.

Building system improvements. The university explains that although the Guggenheim Building has not received a wholesale renovation since its construction, the historic building remains structurally sound but is in need of upgrades to its basic systems. A professional audit performed in February 2014 gave the building an FCI of 43, and the university says that the FCI is now 37. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. The project's capital renewal improvements will address various life-safety and code compliance issues. For instance, a metal ladder extending down the south side of the three-story building provides the only fire egress; the project will mitigate this issue by developing fire-rated egress pathways that meet code, and will upgrade other fire-related systems to increase safety. The project also abates asbestos, improves ADA accessibility, and enhances room capacity. Installation of a cooling system in the Guggenheim Building will improve occupant comfort. The systems improvements will also address deferred maintenance, energy efficiency, worn finishes, preservation of key historical elements, and the building's appearance.

Program-related improvements. The university says that the building's current layout is a legacy of its original construction, with classroom and lab spaces scattered around the building, intermingling with faculty offices. Office configurations create inefficient layouts on each floor, and the offices are much larger than current standards, resulting in multiple occupants being assigned to single offices. Narrow corridors access offices, and configurations have been further compromised by retrofits to accommodate more modern building systems and life-safety measures. Under the project, the building's interior will be reconfigured with an eye toward operational efficiency. Spaces will be consolidated by academic type, providing for greater efficiency and easier access for students to classroom and study space. Currently, the Department of Geography is housed in four different buildings across campus. The programmatic renovations will allow the department to centralize its operations.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Guggenheim Geography Building Renovation

PROGRAM INFORMATION

Built in 1908, the Guggenheim Building first housed the School of Law until the Department of Geography moved into the building in 1959. The department confers BA, MA, and PhD degrees, and conducts theoretical and applied work in human geography, environment and society geography, physical geography, and geographic information science. Although the Department of Geography is the primary occupant in the Guggenheim Building, in fall 2017 the building hosted 21 other departments that each offered at least one course in the building. Overall, over 5,000 undergraduate credit hours and 94 graduate credit hours were taught in the building in fall 2018. Additionally, the building provides office and support space for 84 faculty, staff, and graduate students.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	July 2021
Construction	October 2021	December 2022
Equipment	December 2022	January 2023
Occupancy	January 2023	February 2023

SOURCE OF CASH FUNDS

The source of cash funds for the project is uncommitted, unrestricted net assets.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the project to result in no new operating costs.

STAFF QUESTIONS AND ISSUES

1. Please briefly elaborate on what constitutes "various uncommitted unrestricted net assets" as a cash funds source.

Funding will come from a mix of debt and campus capital reserves. The project will not impact student tuition and will not use revenues from student fees.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Colorado Springs

Engineering and Applied Science (EAS) Renovation

PROGRAM PLAN STATUS

2015-062

Approved Program Plan? Yes

Date Approved:

PRIORITY NUMBERS

<u>Prioritized By</u>	<u>Priority</u>	
DeptInst	1 of 1	
CCHE	22 of 39	
OSPB	NP 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	\$7,692,451	\$21,687,003	\$0	\$29,379,454
CF	\$0	\$7,692,452	\$0	\$0	\$7,692,452
Total	\$0	\$15,384,903	\$21,687,003	\$0	\$37,071,906

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	\$1,172,971	\$1,545,621	\$0	\$2,718,592
Construction	\$0	\$11,339,026	\$15,852,718	\$0	\$27,191,744
Equipment	\$0	\$1,276,497	\$1,900,569	\$0	\$3,177,066
Miscellaneous	\$0	\$197,781	\$416,550	\$0	\$614,331
Contingency	\$0	\$1,398,628	\$1,971,545	\$0	\$3,370,173
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$15,384,903	\$21,687,003	\$0	\$37,071,906

PROJECT STATUS

This is the fifth request for funding. Funding on behalf of the project has been requested each year since FY 2016-17.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Colorado Springs (UCCS) is requesting a combination of state funds and cash funds spending authority for the first phase of a two-phase project to renovate the 74,019-GSF Engineering and Applied Sciences (EAS) Building to address building deficiencies and to improve classroom and research areas. The project will also add 2,065 GSF to the second floor of the building. This year's request for Phase I makes improvements in the 20,000-GSF research and office wing of the building to improve energy efficiency, reallocate space to support additional research functions, and update finishes in existing research and teaching spaces. Phase II will continue renovations and construct the second-floor addition.

Specifically, Phase I of the project will reapportion and refurbish microelectronic and electromagnetic research labs on the first floor of the building to better meet current research needs while providing specialty space for new fields of research. New flex space will be developed to accommodate 30 to 40-seat classrooms, tutoring space, student study

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Colorado Springs

Engineering and Applied Science (EAS) Renovation

space, or future research classrooms, depending upon evolving needs. Phase I replaces existing first-floor lighting with more efficient LED fixtures, and installs a more efficient HVAC system with direct digital controls. New technologies such as projectors, lecterns, and window shades will tie into the building's automation system. Phase I also initiates corrections to health, life-safety, and code issues, such as automating doors to allow building lock-down during emergencies.

Phase II of the project constructs the second-floor addition by raising a portion of the roof in an existing two-story space to create an additional floor. The addition will provide two new classrooms, nine faculty offices, and room for informal student gathering and study. Phase II continues energy efficiency upgrades, including installation of new windows and a new roof membrane with additional insulation, along with code deficiency corrections.

Cost assumption. The cost assumption was determined through the program planning process. Costs are based upon four recently completed projects on the UCCS campus. The cost per GSF is \$487. The project cost accounts for inflation. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

UCCS says that enrollment in engineering programs housed in the EAS Building more than doubled since fall 2008, growing from 762 students in 2008 to 1,944 students in fall 2018. The Mechanical and Aerospace Engineering Department has grown 10 percent per year for a decade. Growth is expected to continue. The university attributes program growth to multiple factors, including the creation of a Bachelor of Innovation program, which has attracted more students than projected; efforts to recruit and retain students and faculty; and the quality of the programming. In addition, the university says it is growing its externally funded research activities, with expectations that this funding will double in the next five to seven years, creating research space pressures. The university says that, in its current state, the EAS Building is insufficient to accommodate this growth, the building layout is not suitable for modern instruction, its systems and amenities are obsolete, and its classrooms show three decades of heavy use. Reconfiguring the building will allow it to more efficiently allocate its space, according to UCCS.

UCCS explains that the type of research conducted in the EAS Building has changed significantly in the last 34 years and that many of the research spaces, particularly the clean room and associated support spaces, are inadequate for the type of research now underway. The university contends that improved research spaces and building finishes will support growing enrollment in engineering programs and aid in the recruitment and retention of highly qualified faculty and students. It will also increase the opportunities for external grant funding for research conducted in the building. The newly renovated building, with its specialty labs, will allow for the expansion of programs such as battery control research, nanotechnology, and research related to cyber security.

According to UCCS, the EAS Building has received minimal improvements since it was originally constructed in 1985 and it has the highest energy utilization index of all buildings on campus, noting that the 8 percent of space in the building dedicated to research uses over 33 percent of the building's total energy. The university reports that the Facilities Condition Index (FCI) of the building is 47. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85.

Project alternatives. The university has considered building a 30,000-GSF academic building to serve first- and second-year students who use EAS, but says this would cost more and would not address any of the health, life-safety, code, energy efficiency, or deferred maintenance issues in EAS. The university has also considered constructing a small addition to EAS, and improving only the building's energy efficiency. UCCS says neither of these options would meet its goals, and would still leave the building in a poor condition.

PROGRAM INFORMATION

UCCS and the electrical engineering undergraduate program were initiated in the mid-1960s based upon the need for trained professionals to support the newly formed Hewlett Packard Company. The EAS College has grown to offer four bachelor of science, four bachelor of innovation, three master of science, six master of engineering, and the doctor of philosophy in engineering degrees. The EAS Building houses two of the three academic departments in the College of EAS: Computer Science and Electrical and Computer Engineering. A third department, Mechanical and Aerospace Engineering, is located in a different building. These programs are staffed by 32 tenure and tenure-track faculty members, along with 12 instructors teaching regular and laboratory classes. The EAS Building also houses

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University of Colorado at Colorado Springs

Engineering and Applied Science (EAS) Renovation

the Department of Mathematics, which is staffed by ten tenured or tenure-track faculty members, four instructors, and 20 lecturers. The east wing of the EAS Building has two large research laboratories, including a microelectronics lab and an electromagnetic lab. These labs were established in 1985, and since then two multi-million dollar companies have been created due to the work of Dr. Carlos Araujo: Ramtron Corporation and Symetrix Corporation. The labs attract funding from several federal agencies, and a number of small and large companies have contracted for use of the specialty labs.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	March 2022
Construction	March 2021	January 2023
Equipment	July 2022	January 2024
Occupancy		January 2024

SOURCE OF CASH FUNDS

The source of cash funds is gifts, grants, and campus reserves.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the energy efficiencies resulting from the project to save it \$49,000 in the first year of operation and \$1.2 million over a 30-year period.

STAFF QUESTIONS AND ISSUES

1. Has the university launched a fundraising campaign or secured any grants for the cash funding portion of the project's financing?

Fundraising on behalf of a renovation project is very challenging. If demand for engineering programs continues at the current rate, the university is considering fundraising in the future for a new addition to the building. A new addition to the building is described as alternative #1 in the program plan. There is a backlog of deferred maintenance in the building. The goal of the project is to address this backlog, reduce operating costs, and address sustainability issues, while repurposing the building to meet the needs of current and future students.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado Denver

College of Nursing and Student Services Renovation

PROGRAM PLAN STATUS

2019-004

Approved Program Plan? Yes No

Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	3 of 3	
CCHE	26 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	\$9,253,866	\$0	\$0	\$9,253,866
CF	\$0	\$9,253,972	\$0	\$0	\$9,253,972
Total	\$0	\$18,507,838	\$0	\$0	\$18,507,838

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	\$2,445,508	\$0	\$0	\$2,445,508
Construction	\$0	\$10,620,352	\$0	\$0	\$10,620,352
Equipment	\$0	\$3,421,421	\$0	\$0	\$3,421,421
Miscellaneous	\$0	\$338,026	\$0	\$0	\$338,026
Contingency	\$0	\$1,682,531	\$0	\$0	\$1,682,531
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$18,507,838	\$0	\$0	\$18,507,838

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

The University of Colorado Denver (CU Denver) is requesting a combination of state funds and cash funds spending authority to renovate 56,888 GSF in the following three buildings on the Anschutz Medical Campus: Health Sciences Library; Education Building 2 North; and Education Building 1. The university says the renovations will increase capacity in existing buildings to accommodate student, faculty, and staff growth; provide modern instructional and research spaces for growing health care-related functions; and consolidate the Division of Student Affairs in one location while keeping the College of Nursing together.

The university explains that the buildings subject to space renovation under the project are in excellent condition structurally, all having a Facility Condition Index (FCI) rating of 89. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. No building systems will require updating under the project. Rather, space within the buildings will be reconfigured and remodeled for more efficient allocation to growing programs. Following are the types of spaces that

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University of Colorado Denver

College of Nursing and Student Services Renovation

will result from the renovations, and the functions that will occupy the spaces, by building affected:

Health Sciences Library:

- Building administration and staff — 8,711 GSF for an information desk and work space;
- Office of the Bursar — 561 GSF for work space and a service area;
- Financial Aid and Scholarship Office — 1,732 GSF for work space and a service area;
- Office of the Registrar — 2,802 GSF for work space and a service area;
- Office of Diversity and Inclusion — 1,597 GSF for work space;
- Office of Equity — 1,390 GSF for work space;
- Disability Resources Services — 1,124 GSF for work space and a service area; visualization and teaching labs — 3,365 GSF; and
- student learning commons — 3,007 GSF.

Education Building 2 North:

- College of Nursing — 13,000 GSF for an educational simulation center and 10,200 GSF for faculty and staff work space;
- Area Health Education Center — 3,000 GSF for staff work space; and
- Office of Information Technology — 2,300 GSF for staff work space.

Education Building 1:

- School of Medicine — 4,021 GSF for classrooms.

Cost assumption. The cost assumption was determined through the program-planning process and utilizing data from a comparable renovation project. The cost per GSF is \$325. The project cost does not account for future inflation. The project meets the Art in Public Places Program requirements. The project is not required to comply with the High Performance Certification Program requirements because the anticipated cost of the renovation is less than 25 percent of the current replacement value of the buildings; however, the university plans to achieve LEED Gold.

PROJECT JUSTIFICATION

Although the buildings subject to renovation under the project were completed and occupied in 2007, CU Denver says many of the interior instructional and workplace spaces are outdated and no longer adequately support intended functions. The Anschutz Medical Campus has run out of facility space, while academic, clinical, and research programs continue to grow, along with administrative functions. The university is seeking to increase capacity and help alleviate the space shortage by renovating existing space, transitioning old environments housing disused functions into modern workplaces and flexible learning environments.

Since 2001, student enrollment at the Anschutz Medical Campus has doubled. In response to a physician shortage in Colorado and nationwide, the School of Medicine's enrollment has increased by 15 percent since 2014. The university says the shortage of nurses is even more significant, and it is committed to growing the College of Nursing's enrollment accordingly. Doing so would overwhelm already heavily utilized laboratories and instructional support spaces. By renovating underutilized space in the Health Sciences Library, CU Denver will be able to consolidate the Department of Student Affairs in that space while allowing the health care-related functions to expand into modern, renovated space vacated by the student affairs functions. When the renovations are complete, the College of Nursing will have a better-quality, co-located space to support its mission and establish a presence for the college on campus.

Under the project, CU Denver will transition the Health Sciences Library from a traditional library to a digital library and learning commons, with a reduced emphasis on physical storage of, and access to, paper-based resources. The transition from physical to digital allows the library to accomplish its purpose in a reduced footprint, freeing up the space once occupied by stacks of books to be used for another purpose.

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University of Colorado Denver

College of Nursing and Student Services Renovation

Project alternatives. The university has considered leasing off-campus space for the College of Nursing, but it does not consider this to be a sustainable long-term option, and doing so would split the college's functions among multiple locations, negatively impacting program delivery. The university could also cap enrollment and limit new faculty hires for the College of Nursing, which is inadvisable considering the current nursing shortage.

PROGRAM INFORMATION

The three buildings to be partially renovated under the project were among seven buildings constructed on the Anschutz campus in 2007 through certificates of participation (COP) repaid from a combination of General Fund moneys and proceeds from the Tobacco Master Settlement Agreement. Lease payments for the COPs are scheduled through FY 2030-31.

Established in 1898, the CU College of Nursing offers bachelor's of science, master of science, doctor of nursing practice, and doctor of philosophy degrees. Graduate specialties include adult-gerontology nurse practitioner and nurse specialist, certified nurse midwife, family nurse practitioner, pediatric primary care and acute care nurse practitioner, psychiatric mental health nurse practitioner, and women's health nurse practitioner. The college also offers three indirect care specialties: i-LEAD Nursing Leadership, Health Care Informatics, and Veteran & Military Care. The university says the college is annually recognized by U.S. News and World Report as among the nation's leaders in nursing education.

The offices within the Division of Student Affairs assist students in navigating various aspects of university life, including billing; financial aid; enrolling for classes; and cultural, equity, and disability issues.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	August 2020	March 2021
Construction	April 2021	July 2022
Equipment		
Occupancy		August 2022

SOURCE OF CASH FUNDS

The source of cash funds for the project is university cash reserves.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the project to result in no new operating costs, since no new square footage is being added to the campus by the project.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Macky Auditorium Renovation

PROGRAM PLAN STATUS

2020-061

Approved Program Plan?

Yes

Date Approved:

December 5, 2019

PRIORITY NUMBERS

Prioritized By	Priority	
Dept/Inst	5 of 5	
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	\$1,739,084	\$5,857,780	\$11,326,092	\$18,922,956
CF	\$0	\$2,608,626	\$8,786,670	\$16,989,136	\$28,384,432
Total	\$0	\$4,347,710	\$14,644,450	\$28,315,228	\$47,307,388

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	\$3,843,699	\$1,481,537	\$2,964,365	\$8,289,601
Construction	\$0	\$91,057	\$11,403,111	\$21,942,690	\$33,436,858
Equipment	\$0	\$0	\$330,843	\$642,226	\$973,069
Miscellaneous	\$0	\$17,708	\$97,645	\$191,836	\$307,189
Contingency	\$0	\$395,246	\$1,331,314	\$2,574,111	\$4,300,671
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$4,347,710	\$14,644,450	\$28,315,228	\$47,307,388

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU Boulder) is requesting a combination of state funds and cash funds spending authority for the first phase of a four-phase project to comprehensively renovate the 86,721-GSF Macky Auditorium. The university says the project will update an antiquated building to meet 21st century needs, address deferred maintenance, bring the building into code compliance, and increase space efficiency. This year's request for Phase I will design the project, while three subsequent phases will involve construction and commissioning.

The scope of the project's capital renewal elements includes the following:

- exterior improvements, including window and exterior door rehabilitation or replacement, masonry repointing and

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University of Colorado at Boulder

Macky Auditorium Renovation

cleaning, and flagstone stair repairs;

- foundation waterproofing and developing foundation drainage systems;
- improvements to fire egress pathways from the main performance venue;
- roofing improvements, including adding roofing insulation, replacing flat roof membranes, and repairing damaged gutters and downspouts;
- site improvements for underground utilities and storm drainage;
- hazardous materials abatement or encapsulation;
- complete mechanical systems replacement, including installing new HVAC systems to provide ventilation and cooling;
- electrical system upgrades, including improvements to the switchgear, power distribution, fire alarm systems, and interior lighting;
- bathroom improvements for accessibility;
- selective replacement of finishes, including carpet, floor tile, woodwork, and paint; and
- restoring the grand stairways serving the performance venue.

Interior spaces will be reconfigured for more efficient office space utilization, accessibility, and modern teaching purposes. To facilitate this, interior construction involves selective demolition and replacement of walls. The university says interior and exterior historic elements are to be preserved and restored where possible.

Cost assumption. The cost assumption was determined through the program planning process, which relied upon campus costs for the recently completed Ketchum Arts and Sciences Renovation project. The Ketchum project was similar to the Macky Auditorium project in that it revitalized an historic building of approximately the same age that needed renewal of its basic building systems. The cost per GSF is \$546. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to CU Boulder, Macky Auditorium requires structural and exterior envelope stabilization and systems upgrades to prevent further degradation, bring the building into code compliance, address deferred maintenance, and improve program delivery. Macky Auditorium has a facility condition index (FCI) of 44. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. The building was constructed in 1922, and the university says the last significant renovation was in 1986; that renovation focused on building systems and interiors related to the main performance hall. The university says the building is generally structurally sound, but has a failing foundation drainage system and water intrusion that place the structure at risk. Mechanical systems are beyond their useful life. Elements of the building contain or may contain hazardous materials requiring abatement or encapsulation. Fire egress pathways are not up to code, and building exterior pathways are closed due to structural deficiencies. Movement of stage sets is inefficient and creates safety issues, and the building requires accessibility upgrades to meet code compliance for ADA. Other improvements will increase the energy efficiency of the building. For instance, the walls and roofing underside contain no insulation, and the windows are single-pane with wooden frames. Improved mechanical systems will also improve occupant comfort.

The university says reconfiguration of certain interior areas will provide improved access for students, align with modern academic pedagogy, and enable the use of space effectively and efficiently. Backstage support spaces are lacking and are poorly configured for supporting modern performances. The reconfiguration will also allow for installing HVAC systems suited for the building and its space, thus further increasing energy efficiency.

PROGRAM INFORMATION

Built in 1922, the Macky Auditorium Concert Hall is a multi-disciplinary and largely self-funded unit of CU Boulder. The university says the 2,040-seat venue serves the campus and the region by entertaining, educating, and challenging audiences with high-quality local, national, and international performances and events. Macky is home to the CU College of Music's Band, Orchestra, Opera, Choral Studies, and Jazz programs; the American Music

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Macky Auditorium Renovation

Research Center; the Center for the American West; the CU Presents artist series; and the Conference on World Affairs. Clients include the Boulder Philharmonic Orchestra, the Boulder Ballet, Colorado MahlerFest, the Greater Boulder Youth Orchestra, TEDx Boulder, the Unreasonable Institute, Amplitude Entertainment, AEG Live, and Live Nation. University student groups that use the venue include UCSU Program Council, the Distinguished Speakers Board, and the Cultural Events Board. Macky contains six classrooms used by the College of Music and the Film Studies, Germanic and Slavic Languages, and Theatre and Dance programs. In fall 2018, these programs taught 670 undergraduate credit hours to 380 students. Macky also provides office and support space for 103 faculty, staff, and graduate students.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	July 2021
Construction	July 2021	May 2025
Equipment	May 2025	August 2025
Occupancy	August 2025	September 2025

SOURCE OF CASH FUNDS

The source of cash funds for the project is uncommitted, unrestricted net assets.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the operating costs per square foot to rise from a 2019 estimate of \$5.24 to a 2020 estimate of \$5.38.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2020-21 Capital Construction Request

University of Colorado at Boulder

Economics Building Renovation

PROGRAM PLAN STATUS

2020-062

Approved Program Plan?

Yes

Date Approved:

December 5, 2019

PRIORITY NUMBERS

Prioritized By	Priority
DeptInst	3 of 5
CCHE	33 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	\$560,925	\$5,502,845	\$0	\$6,063,770
CF	\$0	\$841,387	\$8,254,266	\$0	\$9,095,653
Total	\$0	\$1,402,312	\$13,757,111	\$0	\$15,159,423

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	\$1,262,988	\$899,807	\$0	\$2,162,795
Construction	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$11,515,266	\$0	\$11,515,266
Miscellaneous	\$0	\$11,841	\$91,392	\$0	\$103,233
Contingency	\$0	\$127,483	\$1,250,646	\$0	\$1,378,129
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$1,402,312	\$13,757,111	\$0	\$15,159,423

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU Boulder) is requesting a combination of state funds and cash funds spending authority for the first phase of a two-phase project to renovate the 29,603-GSF Economics Building. The university says the project will modernize the building's systems and bring the building's interior into alignment with modern teaching needs. This year's request for Phase I will design the project, while Phase II will perform the renovations.

The scope of the capital renewal elements of the project includes the following:

- improvements to the building's exterior, including window replacement, exterior door rehabilitation, masonry repointing and cleaning, flagstone stair repairs, and foundation waterproofing;
- floor and roof structural improvements to stabilize the building;

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University of Colorado at Boulder

Economics Building Renovation

- roofing underlayment replacement, adding roofing insulation, and repair/replacement of damaged gutters and downspouts;
- site improvements for underground utilities, storm drainage, and accessibility;
- hazardous materials abatement or encapsulation;
- complete electrical system replacement, including switchgear, power distribution, fire alarm systems, and interior lighting;
- installation of ventilation systems, including cooling;
- mechanical room improvements;
- restroom replacement;
- handrail and guardrail improvements;
- enclosure of stairwells; and
- updating of finishes, including carpet, floor tile, woodwork, and paint.

Interior spaces will be reconfigured for more efficient office space utilization. To facilitate this, interior construction involves selective demolition and replacement of walls. The university says interior and exterior historic elements are to be preserved and restored where possible.

Cost assumption. The cost assumption was determined through the program planning process, which relied upon campus costs for the recently completed Ketchum Arts and Sciences Renovation project. The Ketchum project was similar to the Economics Building project in that it revitalized an historic building of approximately the same age that needed renewal of its basic building systems. The cost per GSF is \$512. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to CU Boulder, the Economics Building requires structural and exterior envelope stabilization and systems upgrades to prevent further degradation, bring the building into code compliance, address deferred maintenance, and improve program delivery. The Economics Building has a facility condition index (FCI) of 43. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. The building was constructed in 1930, and the university says the last significant renovation was in 1954. Elements of the building, such as the window frames, exterior walls, and roof underlayment, contain or may contain hazardous materials requiring abatement or encapsulation. Stairways require enclosure to address life-safety issues associated with building egress. Restrooms and handrails/guardrails require upgrades to comply with code for accessibility. Other improvements will increase the energy efficiency of the building. For instance, the walls and roofing underside contain no insulation, and the windows are single-pane with wooden frames. Improved mechanical systems will also improve occupant comfort.

The university says reconfiguration of certain interior areas will provide improved access for students, align with modern academic pedagogy, and enable the use of space effectively and efficiently.

PROGRAM INFORMATION

Constructed in 1930 in the Tuscan Vernacular style, the Economics Building houses the Economics Department, which offers a bachelor of arts degree, a minor, a master of arts, and a PhD. The building also hosts classes for 17 other programs ranging from languages to philosophy to media. The building houses 131 faculty, staff, and graduate students, and 3,382 lower-division students enrolled in coursework in the building in fall 2018.

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University of Colorado at Boulder

Economics Building Renovation

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	July 2021
Construction	October 2021	December 2022
Equipment		
Occupancy		

SOURCE OF CASH FUNDS

The source of cash funds for the project is various uncommitted, unrestricted net assets.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the operating costs per square foot to rise from a 2019 estimate of \$5.24 to a 2020 estimate of \$5.38.

STAFF QUESTIONS AND ISSUES

None.

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University of Colorado at Boulder *Henderson Building Renovation (Capital Renewal)*

PROGRAM PLAN STATUS

2010-094

Approved Program Plan? Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	4 of 5	
CCHE	35 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	\$567,908	\$7,288,175	\$0	\$7,856,083
CF	\$0	\$851,863	\$10,932,263	\$0	\$11,784,126
Total	\$0	\$1,419,771	\$18,220,438	\$0	\$19,640,209

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	\$1,169,829	\$900,635	\$0	\$2,070,464
Construction	\$0	\$0	\$10,638,078	\$0	\$10,638,078
Equipment	\$0	\$0	\$4,499,280	\$0	\$4,499,280
Miscellaneous	\$0	\$120,872	\$526,042	\$0	\$646,914
Contingency	\$0	\$129,070	\$1,656,403	\$0	\$1,785,473
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$1,419,771	\$18,220,438	\$0	\$19,640,209

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU Boulder) is requesting a combination of state funds and cash funds spending authority for the first phase of a two-phase project to renovate the 31,237-GSF Henderson Building. The university says the project will upgrade to present-day conditions an antiquated building that is structurally sound, but contains deteriorated basic building systems and is not code compliant. This year's request for Phase I will design the project, while Phase II will perform the renovations.

The renovations in Henderson will address the following systems and issues:

- hazardous materials abatement;
- the HVAC system, including modernization of ventilation systems to preserve critical, state-owned artifacts and improve the visitor experience;

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University of Colorado at Boulder

Henderson Building Renovation (Capital Renewal)

- fire-rated doors, fire-rated wall penetrations, and alarm systems;
- the electrical system, including transformer, panel board, and feeder renewal;
- exterior windows, including skylights;
- roof and gutters;
- communications systems;
- lighting systems;
- plumbing fixtures;
- exterior wall stain removal and restoration;
- soffits;
- sanitary waste gravity discharge;
- utility lines leading to the building;
- elevator motors;
- interior doors and hardware;
- wood carpentry; and
- stabilizing the building's structure and exterior envelope.

The renovations include select reconfiguration of the building's interior to support public galleries, administrative spaces, and office suites, and to improve office space utilization and operational efficiency. The reconfiguration will also provide space for graduate students and curator support, and facilitate increased occupant comfort and more efficient energy consumption.

Cost assumption. The cost assumption was determined through the program planning process, which was based on the costs for the recently completed Ketchum Arts and Sciences Renovation project. The Ketchum project was similar to the Henderson project in that it revitalized an historic building built in 1938 with structural integrity that needed basic building system renewal. The cost per GSF is \$629. The project meets the Art in Public Places and High Performance Certification programs.

PROJECT JUSTIFICATION

CU Boulder says the Henderson Building, which is 82 years old, has not been wholly renovated since its construction, and requires system upgrades and interior reconfigurations to meet life-safety codes, improve program delivery, and help to protect the CU Museum of Natural History's collection. The building's facility condition index (FCI) is 43. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. The building is not up to existing code in many respects, and issues such as the need to abate hazardous materials, including asbestos, and to improve fire and smoke separations affect health life-safety, according to the university. Many of the building's utilities are original to the building. Upgrading the HVAC system will help to preserve the museum collections contained in the building while also providing for improved comfort for the building's tenants and visitors. Additionally, renewal of the building's systems will lead to cost savings as a result of increased energy efficiency.

According to the university, reconfiguring the space inside Henderson will increase operational efficiency for programs located there, and bring the facility in line with contemporary educational pedagogy. Further, interior reconfiguration and enhanced technology will increase public access to the museum collections in the building. The university notes that the building's historical elements will be preserved and refurbished under the project.

PROGRAM INFORMATION

Designed by architect Charles Klauder in Tuscan Vernacular style adapted to CU Boulder, the Henderson Building was constructed in 1937 and hosts the CU Museum of Natural History. The museum houses collections from numerous disciplines and categories, including anthropology, botany and herbarium, diatom, entomology, paleontology invertebrates, mollusks, amphibians and reptiles, mammals, birds, and fishes. The collections are on display for study by K-12 students, higher education students, and the public, and the facility hosts about 300,000 visitors annually. Portions of the museum collections also travel throughout the state. Henderson is home to 129 faculty and staff.

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University of Colorado at Boulder

Henderson Building Renovation (Capital Renewal)

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2020	July 2021
Construction	October 2021	December 2022
Equipment		
Occupancy		January 2023

SOURCE OF CASH FUNDS

The source of cash funds for the project is primarily derived from various uncommitted, unrestricted net assets.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the building's operating costs to be \$5.38 per square foot once the project is complete, up from current estimated costs of \$5.24 per square foot.

STAFF QUESTIONS AND ISSUES

None.