COVER PAGE
University of Colorado System

FY 2019-20 CAPITAL CONSTRUCTION REQUESTS (LISTED IN OSPB PRIORITY ORDER)

RECOMMENDED FOR FUNDING BY OSPB:

- Colorado Center for Personalized Medicine and Behavioral Health *(continuation)*

NOT RECOMMENDED FOR FUNDING BY OSPB:

- Engineering and Physical Science Building Renovation (CU Denver)
- Hellems Arts and Sciences Building Renovation (CU Boulder)
- Guggenheim Geography Building Renovation (CU Boulder)
- Engineering and Applied Science (EAS) Renovation (UCCS)
- College of Nursing and Student Services Renovation (CU Anschutz)

TOTAL: FY 2019-20 CAPITAL CONSTRUCTION STATE-FUNDED REQUEST AMOUNT = **$45,784,166**

FY 2019-20 CONTROLLED MAINTENANCE REQUESTS (9)

RECOMMENDED FOR FUNDING BY OSPB:

LEVEL I:

- Replace Campus Fire Alarm Control Panels (CU Boulder)

LEVEL II:

- Replace Chillers, Engineering Building (UCCS)
- Upgrade Campus HVAC Compressed Air Systems (CU Boulder)
- Improve Heating System, Building 500 (CU Anschutz)

NOT RECOMMENDED FOR FUNDING BY OSPB:

LEVEL II:

- Refurbish Campus Elevators, Six Buildings (UCCS)

LEVEL III:

- Refurbish Elevators, Six Buildings (CU Boulder)
- Refurbish Bathrooms, Building 500 (CU Anschutz)
- Replace AHU and Return Air System, Columbine Hall (UCCS)
- Replace Roof, Columbine Hall (UCCS)

COVER PAGE
University of Colorado System (Cont.)

HISTORY OF STATE FUNDING

- **$103.2 million** has been appropriated to the system on behalf of capital projects since FY 2014-15. This represents **10.3 percent** of the total amount appropriated on behalf of all capital construction and controlled maintenance projects during this period.

- **$33.1 million** was appropriated in FY 2018-19, including $20.0 million authorized through Senate Bill 17-267 for controlled maintenance.

INVENTORY OF GENERAL FUND SUPPORTED FACILITIES

- The General Fund supported inventory of University of Colorado System facilities totals **10,844,011 GSF**. This total represents **22.2 percent** of the entire General Fund supported inventory of state buildings.

RECENT CDC VISITS

- CU Anschutz (August 2017)
- CU Boulder (August 2015)
- UCCS (June 2015)

Fiscal Year 2019-20 Capital Construction Request

University of Colorado Denver

Colorado Center for Personalized Medicine and Behavioral Health

2015-014

PROGRAM PLAN STATUS

Approved Program Plan? Yes **Date Approved:** October 29, 2015

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	2 of 3	
CCHE	1 of 40	
OSPB	3 of 62	Recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
CCF	$12,346,906	$19,846,986	$21,859,241	$0	$54,053,133
CF	$176,583,608	$11,405,000	$0	$0	$187,988,608
Total	$188,930,514	**$31,251,986**	$21,859,241	$0	$242,041,741

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$32,270,515	$0	$0	$0	$32,270,515
Construction	$148,467,672	$22,519,997	$0	$0	$170,987,669
Equipment	$0	$5,570,735	$19,255,920	$0	$24,826,655
Miscellaneous	$117,296	$1,673,064	$1,562,405	$0	$3,352,765
Contingency	$8,075,031	$1,488,190	$1,040,916	$0	$10,604,137
Software Acquisition	$0	$0	$0	$0	$0
Total	$188,930,514	**$31,251,986**	$21,859,241	$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.

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.

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado Denver (CU Denver) Anschutz Medical Campus is requesting a combination of state funds and cash funds spending authority for the second phase of a three-phase project to construct a new, ten-story, 390,914-GSF Colorado Center for Personalized Medicine and Behavioral Health Building on land currently occupied by a parking lot. This year's request for Phase II will complete construction and initiate interior build-out,

commissioning, and equipment. Phase I initiated construction, including site remediation and core and shell construction and Phase III will finish equipping and furnishing the building. The university designed the project using cash funds. A 100-foot pedestrian bridge and unfinished 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 shell space for a future 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.

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.

Fiscal Year 2019-20 Capital Construction Request

University of Colorado Denver

Colorado Center for Personalized Medicine and Behavioral Health

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 ten 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.

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. 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, 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.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	August 2017	November 2018
Construction	December 2018	June 2021
Equipment	June 2021	August 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. Movement of the CCTSI, the largest grant-funded initiative at the campus, to the new facility will free up almost $1.0 million per year for debt service.

OPERATING BUDGET

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

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2019-20 Capital Construction Request

University of Colorado Denver

Engineering and Physical Sciences Building Renovation

2015-061

PROGRAM PLAN STATUS

Approved Program Plan? Yes **Date Approved:** October 29, 2015

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	1 of 3	
CCHE	6 of 40	
OSPB	28 of 62	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
CCF	$0	$4,802,793	$19,939,451	$11,299,680	$36,041,924
CF	$0	$13,867,598	$19,713,150	$3,766,560	$37,347,308
Total	$0	**$18,670,391**	$39,652,601	$15,066,240	$73,389,232

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$9,839,646	$0	$0	$9,839,646
Construction	$0	$7,882,560	$30,139,542	$11,532,429	$49,554,531
Equipment	$0	$0	$6,632,722	$1,855,039	$8,487,761
Miscellaneous	$0	$59,119	$992,118	$309,114	$1,360,351
Contingency	$0	$889,066	$1,888,219	$1,369,658	$4,146,943
Software Acquisition	$0	$0	$0	$0	$0
Total	$0	**$18,670,391**	$39,652,601	$15,066,240	$73,389,232

PROJECT STATUS

This is the fourth 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 and Applied Sciences (CEAS) 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 CEAS. Approximately 80 percent of the assignable area within the new building will be used for instructional purposes, while the remaining 20 percent will be

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 CEAS 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. CEAS 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 uses 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 CEAS 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 CEAS and CLAS programs are severely overcrowded and overutilized, and do not have capacity to grow. CEAS 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 CEAS 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 CEAS 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 CEAS 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 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

CEAS at CU Denver offers undergraduate and graduate programs in bioengineering, civil engineering, electrical engineering, mechanical engineering, and computer science and engineering. Graduate programs include a master of science, master of engineering, and doctor of philosophy degree. CEAS 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 CEAS 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 2019	July 2020
Construction	August 2020	July 2022
Equipment	July 2022	August 2022
Occupancy		September 2022

SOURCE OF CASH FUNDS

The source of cash funds is capital reserves and donations. The university indicates that the project may be financed through a future bond issuance. The interest rate and term will be determined by market conditions at the time of issuance.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The college anticipates an increase in operating costs of $21 per assignable square foot annually, or $781,200.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2019-20 Capital Construction Request

University of Colorado at Boulder

Hellems Arts and Sciences Building Renovation

PROGRAM PLAN STATUS

2004-120

Approved Program Plan? Yes **Date Approved:** October 23, 2017

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	1 of 2	
CCHE	9 of 40	
OSPB	31 of 62	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
CCF	$0	$3,225,474	$10,177,262	$19,987,264	$33,390,000
CF	$0	$4,454,226	$14,054,314	$27,601,460	$46,110,000
Total	$0	**$7,679,700**	$24,231,576	$47,588,724	$79,500,000

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$6,840,823	$1,513,680	$3,028,661	$11,383,164
Construction	$0	$100,769	$18,937,279	$37,163,457	$56,201,505
Equipment	$0	$0	$1,381,020	$2,680,802	$4,061,822
Miscellaneous	$0	$46,003	$215,811	$427,045	$688,859
Contingency	$0	$692,105	$2,183,786	$4,288,759	$7,164,650
Software Acquisition	$0	$0	$0	$0	$0
Total	$0	**$7,679,700**	$24,231,576	$47,588,724	$79,500,000

PROJECT STATUS

This is the eighth 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 2018-19. 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.

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 integration of 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 underlaying; 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 6 percent inflation factor is applied to the project cost based on the recent regional inflation index. 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 July 2016 gave the Hellems Arts and Sciences Building a Facility Condition Index rating (FCI) of 41, well below the Office of the State Architects' target rating of 85 for state buildings. This rating is a ratio of a facility's deficiencies to its current replacement value. 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.

PROGRAM INFORMATION

The Hellems Arts and Sciences Building (Hellems) 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 Hellems, and the university says that all of its students benefit from the building at some point during their studies at CU Boulder. 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 Hellems.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2018	July 2019
Construction	July 2019	November 2022
Equipment		
Occupancy		December 2022

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

None.

Fiscal Year 2019-20 Capital Construction Request

University of Colorado at Boulder

Guggenheim Geography Building Renovation

PROGRAM PLAN STATUS *2008-056*

Approved Program Plan? Yes **Date Approved:** October 23, 2017

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	2 of 2	
CCHE	17 of 40	
OSPB	37 of 62	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
CCF	$0	$1,039,621	$9,437,406	$0	$10,477,027
CF	$0	$1,559,431	$14,156,110	$0	$15,715,541
Total	$0	**$2,599,052**	$23,593,516	$0	$26,192,568

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$2,344,045	$1,837,912	$0	$4,181,957
Construction	$0	$0	$18,284,433	$0	$18,284,433
Equipment	$0	$0	$1,293,521	$0	$1,293,521
Miscellaneous	$0	$41,382	$237,287	$0	$278,669
Contingency	$0	$213,625	$1,940,363	$0	$2,153,988
Software Acquisition	$0	$0	$0	$0	$0
Total	$0	**$2,599,052**	$23,593,516	$0	$26,192,568

PROJECT STATUS

This is the second 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 $10.5 million in capital renewal system upgrades with $15.7 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:

- 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 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 built in 1938 with structural integrity that needed renewal of its basic building systems. The cost per GSF is $1,143. 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, well below the Office of the State Architect's target rating of 85 for state buildings. This rating is a ratio of facility deficiencies to current replacement value. 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 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, with high-traffic classroom areas on the main level of the building where they are easily accessible by students, and semi-private office areas and graduate student suites positioned away from the high-traffic areas. Spaces will also 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 2019-20 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 19 other departments that each offered at least one course in the building. Overall, about 5,000 undergraduate credit hours and 182 graduate credit hours were taught in the building in fall 2017. Additionally, the building provides office and support space for about 85 faculty, staff, and graduate students.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2019	July 2020
Construction	October 2020	December 2021
Equipment		
Occupancy		January 2022

SOURCE OF CASH FUNDS

The source of cash funds for the project is debt and campus reserves.

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

None.

Fiscal Year 2019-20 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:** May 8, 2015

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	1 of 1	
CCHE	19 of 40	
OSPB	39 of 62	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
CCF	$0	$8,056,086	$20,566,770	$0	$28,622,856
CF	$0	$6,000,000	$0	$0	$6,000,000
Total	$0	**$14,056,086**	$20,566,770	$0	$34,622,856

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$1,154,424	$1,530,254	$0	$2,684,678
Construction	$0	$10,202,949	$15,002,139	$0	$25,205,088
Equipment	$0	$1,203,122	$1,758,266	$0	$2,961,388
Miscellaneous	$0	$194,047	$335,602	$0	$529,649
Contingency	$0	$1,301,544	$1,940,509	$0	$3,242,053
Software Acquisition	$0	$0	$0	$0	$0
Total	$0	**$14,056,086**	$20,566,770	$0	$34,622,856

PROJECT STATUS

This is the fourth 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 state funds for the first phase of a two-phase project to renovate the 74,022-GSF Engineering and Applied Sciences (EAS) Building to address building deficiencies and to improve classroom and research areas. 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 renovate the remainder of the building.

Specifically, Phase I of the project improves the energy efficiency of the research and office wing by replacing the chillers and cooling towers, installing a better-insulated roof, and extending the existing direct digital control system to improve heating and cooling. It also replaces worn finishes in public spaces and offices and reconfigures research areas on the second floor to address deficiencies. Phase II of the project reconfigures classrooms and labs in the

remainder of the building for increased functionality, improves technology infrastructure, addresses concerns with Americans with Disabilities Act accessibility in some public spaces, and replaces worn finishes.

Cost assumption. The cost assumption was determined through the program planning process. The cost per GSF is $468. The project cost does not account for future inflation. The project meets the Art in Public Places and High-Performance Certification Program requirements. The university plans to renovate the building to the LEED Gold standard.

PROJECT JUSTIFICATION

UCCS says that enrollment in engineering programs housed in the EAS Building more than doubled between the fall of 2007 and the fall of 2015, with growth expected to continue. It attributes this growth to multiple factors, including the creation of Bachelor of Innovation and Bachelor of Science in Engineering Education programs, which have 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.

UCCS explains that the type of research conducted in the EAS Building has changed significantly in the last 33 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. For instance, when the building was constructed, research was focused on microelectronics while today the focus is on nanotechnology. 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 research and office wing will allow for the expansion of programs such as battery control research, propulsion research, 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 58, well below the Office of the State Architect's target rating of 85 for state buildings. This rating is a ratio of a facility's deficiencies to its current replacement value.

Project alternatives. The university considered maintaining the status quo, renovating only the building's east wing, and improving only the building's energy efficiency. UCCS says none of these options would meet its goals, and would leave the building in a poor condition. The university notes that Phase I of the project can be stand-alone if outyear funding is not appropriated.

PROGRAM INFORMATION

The EAS Building houses two of the three academic departments in the College of EAS: Computer Science and Electrical and Computer Engineering (ECE). A third department, Mechanical and Aerospace Engineering (MAE), is located in a different building. The EAS Building also houses the Department of Mathematics. UCCS says the ECE and MAE Departments are nationally recognized for their battery control and propulsion research activities. The east wing of the EAS Building has two large research laboratories, including a microelectronics lab and an electromagnetic lab. The Vision and Security Technology Laboratory in the EAS Building hosts more than 20 students and researchers at all levels.

Fiscal Year 2019-20 Capital Construction Request

University of Colorado at Colorado Springs

Engineering and Applied Science (EAS) Renovation

PROJECT SCHEDULE

	Start Date	Completion Date
Design	October 2019	August 2021
Construction	April 2020	May 2023
Equipment	July 2021	June 2023
Occupancy		June 2023

SOURCE OF CASH FUNDS

The source of cash funds for this project is a CU Foundation gift.

OPERATING BUDGET

Operating expenses are paid from institutional sources. UCCS anticipates the project will result in a 10 to 15 percent reduction in building energy costs.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2019-20 Capital Construction Request

University of Colorado Denver

College of Nursing and Student Services Renovation

2019-004

PROGRAM PLAN STATUS

Approved Program Plan? Yes **Date Approved:** October 23, 2017

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	2 of 3	
CCHE	20 of 40	
OSPB	40 of 62	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
CCF	$0	$8,813,206	$0	$0	$8,813,206
CF	$0	$8,813,306	$0	$0	$8,813,306
Total	$0	**$17,626,512**	$0	$0	$17,626,512

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2019-20	FY 2020-21	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$2,329,055	$0	$0	$2,329,055
Construction	$0	$10,114,622	$0	$0	$10,114,622
Equipment	$0	$3,707,770	$0	$0	$3,707,770
Miscellaneous	$0	$321,929	$0	$0	$321,929
Contingency	$0	$1,153,136	$0	$0	$1,153,136
Software Acquisition	$0	$0	$0	$0	$0
Total	$0	**$17,626,512**	$0	$0	$17,626,512

PROJECT STATUS

This is the second 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 rating of 89; 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 will result from the renovations, and the functions that will occupy the space, 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 $310. 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 requirements of the High-Performance Certification Program because the anticipated cost of the renovation is less than 25 percent of the current replacement value of the building.

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.

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 2019	March 2020
Construction	April 2020	July 2021
Equipment	July 2021	August 2021
Occupancy		August 2021

SOURCE OF CASH FUNDS

The source of cash funds for the project is university cash reserves ($8,413,306) and gifts ($400,000).

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.

University of Colorado System
Five-Year Projection of Need
FY 2019-20 through FY 2023-24

Project Title	Fund Source	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	Totals
University of Colorado at Boulder							
Capital Construction (Current Year)							
Hellems Arts and Sciences Building Renovation	CCF	3,225,474	10,177,262	9,993,881	9,993,383	0	$33,390,000
	CF	4,454,226	14,054,314	13,801,074	13,800,386	0	$46,110,000
Guggenheim Geography Building Renovation	CCF	1,039,621	9,437,406	0	0	0	$10,477,027
	CF	1,559,431	14,156,110	0	0	0	$15,715,541
Capital Construction (Out Year)							
Academic Classroom Building (East Campus)	CCF	0	0	2,457,000	23,773,500	11,333,520	$37,564,020
	CF	0	0	3,003,000	29,056,500	13,852,080	$45,911,580
Duane Physics Addition	CCF	0	5,220,742	39,216,431	12,639,731	45,283,262	$102,360,166
	CF	0	6,380,906	47,602,722	12,488,785	56,880,501	$123,352,914
Economics Building Renovation	CCF	0	440,939	5,229,898	0	0	$5,670,837
	CF	0	660,958	6,651,219	0	0	$7,312,177
Henderson Building (Capital Renewal)	CCF	0	0	4,579,719	0	0	$4,579,719
	CF	0	0	5,597,434	0	0	$5,597,434
Macky Auditorium Renovation	CCF	0	0	1,356,114	4,671,060	9,040,762	$15,067,936
	CF	0	0	1,657,473	5,709,073	20,090,582	$27,457,128
Norlin Library Renovation	CCF	0	3,638,945	12,534,145	12,534,145	11,725,490	$40,432,725
	CF	0	4,447,600	15,319,510	15,319,510	14,331,155	$49,417,775
CU Boulder Capital Construction Subtotals	**CCF**	**4,265,095**	**28,915,294**	**75,367,188**	**63,611,819**	**77,383,034**	**$249,542,430**
	CF	**6,013,657**	**39,699,888**	**93,632,432**	**76,374,254**	**105,154,318**	**$320,874,549**
University of Colorado at Colorado Springs							
Capital Construction (Current Year)							
Engineering and Applied Science (EAS) Renovation	CCF	8,056,086	0	0	0	0	$8,056,086
	CF	6,000,000	0	0	0	0	$6,000,000
UCCS Capital Construction Subtotals	**CCF**	**8,056,086**	**0**	**0**	**0**	**0**	**$8,056,086**
	CF	**6,000,000**	**0**	**0**	**0**	**0**	**$6,000,000**

University of Colorado System
Five-Year Projection of Need
FY 2019-20 through FY 2023-24

Project Title	Fund Source	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	Totals
University of Colorado Denver							
Capital Construction (Current Year)							
College of Nursing and Student Services Renovations	CCF	8,813,206	0	0	0	0	$8,813,206
	CF	8,813,306	0	0	0	0	$8,813,306
Colorado Center for Personalized Medicine Building	CCF	19,846,986	21,859,241	0	0	0	$41,706,227
	CF	11,405,000	0	0	0	0	$11,405,000
Engineering and Physical Sciences Building Renovation	CCF	14,002,793	29,739,451	11,299,680	0	0	$55,041,924
	CF	4,667,598	9,913,150	3,766,560	0	0	$18,347,308
Capital Construction (Out Year)							
CU Denver Building Renovation	CCF	0	0	28,090,770	0	0	$28,090,770
	CF	0	0	28,090,769	0	0	$28,090,769
Instructional Lab Wing	CCF	0	12,949,841	0	0	0	$12,949,841
	CF	0	12,949,840	0	0	0	$12,949,840
CU Denver Capital Construction Subtotals	**CCF**	**42,662,985**	**64,548,533**	**39,390,450**	**0**	**0**	**$146,601,968**
	CF	**24,885,904**	**22,862,990**	**31,857,329**	**0**	**0**	**$79,606,223**
Capital Construction Subtotals	**CCF**	**54,984,166**	**93,463,827**	**114,757,638**	**63,611,819**	**77,383,034**	**$404,200,484**
	CF	**36,899,561**	**62,562,878**	**125,489,761**	**76,374,254**	**105,154,318**	**$406,480,772**
Controlled Maintenance Subtotals	**CCF**	**7,062,197**		*See OSA Annual Report.*			**$7,062,197**
Total: State Funds		*62,046,363*	*93,463,827*	*114,757,638*	*63,611,819*	*77,383,034*	*$411,262,681*
Grand Total: All Fund Sources		**$98,945,924**	**$156,026,705**	**$240,247,399**	**$139,986,073**	**$182,537,352**	**$817,743,453**

Source: Department of Higher Education and Office of the State Architect