

**COVER PAGE**  
**Metropolitan State University of Denver**

***FY 2016-17 CAPITAL CONSTRUCTION REQUEST (LISTED IN OSPB PRIORITY ORDER)***

***RECOMMENDED FOR FUNDING BY OSPB:***

- Aerospace Engineering Sciences Building (*continuation*)

***TOTAL: FY 2016-17 CAPITAL CONSTRUCTION STATE-FUNDED REQUEST AMOUNT = \$0***

***FY 2016-17 CONTROLLED MAINTENANCE REQUESTS (NONE)***

***HISTORY OF STATE FUNDING***

- **\$20.0 million** has been appropriated on behalf of capital projects at the department since FY 2011-12. This represents **2.3 percent** of total amount appropriated on behalf of all capital construction and controlled maintenance projects during this period.
- **\$14.7 million** was appropriated in **FY 2015-16**.

***INVENTORY OF GENERAL FUND SUPPORTED FACILITIES***

- The General Fund supported inventory of all facilities on the Auraria Higher Education Center campus totals **2,304,152 GSF**. This total represents **5.0 percent** of the entire General Fund supported inventory of state buildings.

***RECENT CDC VISITS***

- Auraria Higher Education Center Campus (May 2013)

# Fiscal Year 2016-17 Capital Construction Request

## Metropolitan State University of Denver

*Aerospace Engineering Sciences Building*

### PROGRAM PLAN STATUS

2015-010

Approved Program Plan?  Yes  No

Date Approved:

### PRIORITY NUMBERS

Prioritized By	Priority	
Dept/Inst	1 of 1	
CCHE	2 of 31	
OSPB	6 of 46	Recommended for funding.

### PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2016-17	FY 2017-18	Future Requests	Total Cost
CCF	\$20,000,000	\$0	\$0	\$0	\$20,000,000
CF	\$16,404,160	\$23,595,840	\$0	\$0	\$40,000,000
<b>Total</b>	<b>\$36,404,160</b>	<b>\$23,595,840</b>	<b>\$0</b>	<b>\$0</b>	<b>\$60,000,000</b>

### ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2016-17	FY 2017-18	Future Requests	Total Cost
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$3,759,000	\$2,687,442	\$0	\$0	\$6,446,442
Construction	\$30,093,037	\$18,116,963	\$0	\$0	\$48,210,000
Equipment	\$0	\$2,421,435	\$0	\$0	\$2,421,435
Miscellaneous	\$141,623	\$370,000	\$0	\$0	\$511,623
Contingency	\$2,410,500	\$0	\$0	\$0	\$2,410,500
Software Acquisition	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$36,404,160</b>	<b>\$23,595,840</b>	<b>\$0</b>	<b>\$0</b>	<b>\$60,000,000</b>

### PROJECT STATUS

This is a continuation request. The university is requesting cash funds spending authority for the final phase of the project.

### PROJECT DESCRIPTION / SCOPE OF WORK

Metropolitan State University of Denver (MSU Denver) is requesting cash funds spending authority for the final phase of a three-phase state-funded project to construct a 118,000-GSF facility to support the development of an advanced manufacturing degree program through the creation of interdisciplinary learning space. This year's request for Phase III finishes construction and equips the building. Phase I designed the project and began code review. Phase II finished code review, prepared the site, and began construction.

The project will allow the university to integrate the study of advanced-manufacturing disciplines such as aerospace science and aviation, including industrial design and engineering technology, into a single, new building in order to:

- foster collaborative research;

# Fiscal Year 2016-17 Capital Construction Request

## Metropolitan State University of Denver

### *Aerospace Engineering Sciences Building*

---

- create an integrated space for multiple programs with advanced technology and labs;
- support an integrated curriculum; and
- create deeper industry ties.

The new building will house four existing departments, including: (1) aerospace science; (2) industrial design; (3) computer science; and (4) engineering technology. It will also support the development of a new department: advanced manufacturing, which will allow for the development of the advanced manufacturing degree program, with an emphasis on aviation and aerospace. The new program was developed through a collaborative process involving facility staff and the deans of various departments. To date, this group has met with industry stakeholders to begin developing a curriculum for the new program and to discuss potential public-private partnerships. It has also visited similar facilities in order to better understand industry expectations for graduates of science, technology, engineering, and math (STEM) programs.

The new facility will be constructed adjacent to the MSU Denver Student Success Building on the Auraria Higher Education Center (AHEC) campus. Once the new facility is open, space in existing campus facilities will be vacated for use by other MSU Denver departments or the other AHEC constituent institutions.

**Cost assumptions.** The cost assumption was determined through the program planning process. It was revised based on information collected during the design phase. The overall size of the building was reduced between the Phase II and Phase III request, and — in order to accommodate anticipated future growth — certain functions originally planned for the building, including physics and aviation, are no longer planned for the building. The cost per GSF is \$508. The project includes inflation costs. It meets the Art in Public Places and High Performance Certification Program requirements.

## PROJECT JUSTIFICATION

According to MSU Denver, it is already an industry leader in providing advanced-manufacturing graduates to local corporations, particularly to Colorado's aerospace industry. The university says the creation of a new aviation, aerospace, and advanced Manufacturing degree program will lead to opportunities for federal funding. Additionally, the university says opening the new facility will positively impact Colorado's economy because it will lead to new job creation in STEM fields.

All five departments impacted by the request have illustrated a need for additional classroom and lab space, says MSU Denver. The programs each have specialized labs and equipment. Sharing a facility will allow the university to avoid the expensive duplication of creating specialized lab facilities for each department. The university says it has identified opportunities for shared spaces in the new building in order to collocate multiple departments to the building and to eliminate the need to build and maintain multiple locations for various STEM departments within MSU Denver. This flexibility will permit student scheduling between departments and provide greater opportunity for collaboration among faculty and staff.

## PROGRAM INFORMATION

MSU Denver is a four-year, urban university located on the AHEC campus. The university has the third-highest enrollment of undergraduate students in the state. In fall 2014, there were 21,179 undergraduate students, or 15,514 full time equivalent students, registered. Additionally, more than 6,000 MSU Denver students study in STEM fields and advanced manufacturing disciplines.

# Fiscal Year 2016-17 Capital Construction Request

## Metropolitan State University of Denver

*Aerospace Engineering Sciences Building*

### PROJECT SCHEDULE

	Start Date	Completion Date
Design	October 2014	July 2015
Construction	September 2015	May 2017
Equipment		May 2017
Occupancy		July 2017

### HIGH PERFORMANCE CERTIFICATION PROGRAM

MSU Denver is building the facility to the LEED gold standard, the second highest of four possible certification levels. The costs associated with meeting the requirements of LEED certification are included in the professional services line.

### SOURCE OF CASH FUNDS

The source of cash funds is bonds to be repaid from an existing student facility fee and gifts, grants, and donations. The university says it has the capacity to bond for the full \$40 million in cash funds dedicated to the project, but it anticipates that it will raise \$20 million through public/private partnerships and other donations.

MSU Denver plans to issue bonds under the Higher Education Revenue Bond Intercept Program.

**Intercept program requirements pursuant to Section 23-5-139 (1)(b)(I), C.R.S.** Based on the information provided by the State Treasurer's Office, staff has determined that the MSU Denver governing board meets the requirements to participate in the intercept program, as follows:

- 1.) **Credit rating:** MSU Denver current has a credit rating of A1 from Moody's. This credit rating — from a nationally recognized statistical rating organization — is in one of the three highest categories.
- 2.) **Debt service coverage ratio:** MSU Denver has a current debt service coverage ratio of greater than 2.0 percent (net revenue available for annual debt service/total amount of debt service subject to intercept program). After the issuance of bonds on behalf of the Aerospace Engineering Sciences Building, the university's debt service coverage ratio will still exceed 1.5 percent.

### OPERATING BUDGET

Operating expenses are paid from institutional sources. The university anticipates an additional 1.0 FTE and \$0.9 million per year will be needed to oversee building operations.

### STAFF QUESTIONS AND ISSUES

1. What is the status of fundraising on behalf of the project?

*Last April, MSU Denver held a public kick off with 100 individuals representing 50 companies involved in Colorado's aerospace industry. At this event, the university announced our plans for completing and equipping the AES building, including our need for \$10 million in cash to finish construction and up to \$10 million in new equipment to fully operationalize our new Advanced Manufacturing Science Institute laboratories within the building.*

*Since that event, MSU Denver's team has been following up with many of these industry leaders about ways that their companies can partner with the university in the newly launched degree program in advanced manufacturing sciences as well as in providing resources for the new AES building. Several of these companies, including*

## **Fiscal Year 2016-17 Capital Construction Request**

### **Metropolitan State University of Denver**

#### *Aerospace Engineering Sciences Building*

---

*Lockheed Martin, Ball Aerospace, and United Launch Alliance have expressed great interest in the programs and anticipate placing interns and hiring graduates as well as collaborating on manufacturability research through active partnerships with the university once these facilities are completed.*

*Our team is actively soliciting leading companies for contributions and expanding our reach to original equipment manufacturers (OEM's) about supplying advanced manufacturing equipment for the new labs planned for the building.*