

**COVER PAGE**  
**Auraria Higher Education Center**

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

NOT RECOMMENDED FOR FUNDING BY OSPB:

- Replace Heating and Hot Water System (Capital Renewal)

TOTAL: FY 2019-20 CAPITAL CONSTRUCTION STATE-FUNDED REQUEST AMOUNT = **\$18,488,778**

FY 2019-20 CONTROLLED MAINTENANCE REQUESTS: 0

HISTORY OF STATE FUNDING

- **\$31.8 million** has been appropriated on behalf of capital projects at AHEC since FY 2014-15. This represents **3.2 percent** of the total amount appropriated on behalf of all capital construction and controlled maintenance projects during this period.
- \$4.6 million was appropriated in FY 2018-19, including \$3.7 million authorized through Senate Bill 17-267 for controlled maintenance.

INVENTORY OF GENERAL FUND SUPPORTED FACILITIES

- The General Fund supported inventory of AHEC facilities totals **2,741,750 GSF**. This total represents **5.6 percent** of the entire General Fund supported inventory of state buildings.

RECENT CDC VISITS

- No visits in the last five years.

# Fiscal Year 2019-20 Capital Construction Request

## Auraria Higher Education Center

*Replace Heating and Hot Water System (Capital Renewal)*

### PROGRAM PLAN STATUS

2020-032

Approved Program Plan?

Date Approved:

### PRIORITY NUMBERS

| <u>Prioritized By</u> | <u>Priority</u> |                              |
|-----------------------|-----------------|------------------------------|
| Dept/Inst             | 1 of 1          |                              |
| CCHE                  | 12 of 40        |                              |
| OSPB                  | 20 of 62        | Not recommended for funding. |

### PRIOR APPROPRIATION AND REQUEST INFORMATION

| <u>Fund Source</u> | <u>Prior Approp.</u> | <u>FY 2019-20</u>   | <u>FY 2020-21</u> | <u>Future Requests</u> | <u>Total Cost</u>   |
|--------------------|----------------------|---------------------|-------------------|------------------------|---------------------|
| CCF                | \$0                  | \$18,488,778        | \$0               | \$0                    | \$18,488,778        |
| CF                 | \$0                  | \$200,000           | \$0               | \$0                    | \$200,000           |
| <b>Total</b>       | <b>\$0</b>           | <b>\$18,688,778</b> | <b>\$0</b>        | <b>\$0</b>             | <b>\$18,688,778</b> |

### ITEMIZED COST INFORMATION

| <u>Cost Item</u>      | <u>Prior Approp.</u> | <u>FY 2019-20</u>   | <u>FY 2020-21</u> | <u>Future Requests</u> | <u>Total Cost</u>   |
|-----------------------|----------------------|---------------------|-------------------|------------------------|---------------------|
| Land Acquisition      | \$0                  | \$0                 | \$0               | \$0                    | \$0                 |
| Professional Services | \$0                  | \$4,287,529         | \$0               | \$0                    | \$4,287,529         |
| Construction          | \$0                  | \$11,133,889        | \$0               | \$0                    | \$11,133,889        |
| Equipment             | \$0                  | \$0                 | \$0               | \$0                    | \$0                 |
| Miscellaneous         | \$0                  | \$1,568,380         | \$0               | \$0                    | \$1,568,380         |
| Contingency           | \$0                  | \$1,698,980         | \$0               | \$0                    | \$1,698,980         |
| Software Acquisition  | \$0                  | \$0                 | \$0               | \$0                    | \$0                 |
| <b>Total</b>          | <b>\$0</b>           | <b>\$18,688,778</b> | <b>\$0</b>        | <b>\$0</b>             | <b>\$18,688,778</b> |

### PROJECT STATUS

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

### PROJECT DESCRIPTION / SCOPE OF WORK

The Auraria Higher Education Center (AHEC) is requesting a combination of state funds and cash funds spending authority to replace its campus-wide heating and hot water system. This is a capital renewal request. The capital renewal approach focuses on upgrading building systems, infrastructure, and the basic building components within existing academic buildings on a building-by-building basis, rather than project by project. Most of the buildings on the AHEC campus are currently served by Xcel Energy's steam system, which serves the heating and hot water needs for hundreds of buildings in downtown Denver.

Specifically, the steam heat exchangers will be converted to natural gas boilers in the Arts, Boulder Creek, Central Classroom, Cherry Creek, Plaza, PE/Events Center, West Classroom, and North Chiller Plant buildings. The Auraria Library and North Classroom buildings have already been converted as part of past capital projects.

**Cost assumption.** The cost assumption was determined by an energy audit firm hired by AHEC in 2016. The

# Fiscal Year 2019-20 Capital Construction Request

## Auraria Higher Education Center

*Replace Heating and Hot Water System (Capital Renewal)*

project cost accounts for recent inflation. As a capital renewal request, the project is not required to meet the Art in Public Places or High-Performance Certification Program requirements.

### PROJECT JUSTIFICATION

According to AHEC, the existing steam system is over 40 years old and is deteriorating rapidly. The existing steam system presents life-safety concerns for utility workers and multiple buildings are at risk of a heating system or steam line failure. A recent facility condition audit of the steam system identified emergency repairs of over \$2.0 million. The 2011 Infrastructure Master Plan also identified converting the steam heat exchangers to natural gas boilers in order to achieve energy efficiency and cost savings. Furthermore, Xcel Energy plans to replace its existing steam generation plant, the cost of which would be passed on to its customers, including AHEC.

AHEC says it is at a tipping point and must decide to move forward with repairing the deteriorating steam system or convert the campus from using steam to natural gas for its heating and hot water needs. AHEC says a steam system failure would be catastrophic for the campus as multiple buildings would be unable to serve students or hold classes. Examples of recent failures that necessitated emergency repairs include: a steam lateral to the Central Classroom Building in 2010; steam valves, piping, and expansion joints across campus in 2015; a steam pit in the Plaza Building in 2016, and a nearby steam vault owned by Xcel Energy.

### PROGRAM INFORMATION

AHEC is comprised of three separate higher education institutions, with a combined student population of about 42,000. The Community College of Denver, Metropolitan State University of Denver, and the University of Colorado Denver share classroom space, parking, and general services on the campus. AHEC manages campus facilities and non-academic functions, including utilities, the library, the child care center, classroom and event scheduling, and campus police and security. The AHEC campus occupies 150 acres in downtown Denver. Xcel Energy is the exclusive provider of steam and electricity to the campus, and the primary provider of natural gas. AHEC is the third largest customer of Xcel Energy's steam system at an annual cost of about \$1.0 million.

### PROJECT SCHEDULE

|              | Start Date | Completion Date |
|--------------|------------|-----------------|
| Design       | July 2019  | June 2020       |
| Construction | July 2020  | June 2023       |
| Equipment    | July 2020  | June 2023       |
| Occupancy    |            | June 2023       |

### SOURCE OF CASH FUNDS

The source of cash funds for this project is the deferred maintenance funds that AHEC receives from each of the three institutions on campus. The funds are used by AHEC for critical campus-wide repairs on an annual basis.

### OPERATING BUDGET

Operating costs are paid from institutional sources. AHEC expects utility costs to decrease by \$950,000 per year as a result of converting the campus from steam to natural gas.

### STAFF QUESTIONS AND ISSUES

1. Have components of the project been submitted as separate controlled maintenance projects in the past? If so, please detail the individual controlled maintenance requests and amounts.

## **Fiscal Year 2019-20 Capital Construction Request**

### **Auraria Higher Education Center**

#### *Replace Heating and Hot Water System (Capital Renewal)*

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*No components of this capital renewal request have ever been submitted as a controlled maintenance request. In 2010 we had a steam lateral fail and had to submit for emergency maintenance dollars from the OSA. It cost \$171,000 in 2010, and today the same repairs would cost close to \$225,000. All the other remaining laterals are over 42 years old and are subject to the same corrosive environment that caused the 2010 failure. Taking preemptive measures to replace before they fail would require close to a \$1.35-million-dollar investment.*

*The principle reason that Steam Line Controlled Maintenance requests have not been submitted is due to the fact that the Auraria Campus Infrastructure Masterplan indicates that the campus should move from steam to natural gas. CRS 24-30-1309.9 stipulates that controlled maintenance repairs and replacement projects must be suitable for retention for at least five years and Auraria in good conscience could not provide that certification.*

**Auraria Higher Education Center  
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              |
|---------------------------------------------------------------------------|-------------|---------------------|-------------------------------|---------------------|---------------------|--------------------|---------------------|
| <b>Capital Construction (Current Year)</b>                                |             |                     |                               |                     |                     |                    |                     |
| Replace Heating and Hot Water System (Capital Renewal)                    | CCF         | 18,488,778          | 0                             | 0                   | 0                   | 0                  | \$18,488,778        |
|                                                                           | CF          | 200,000             | 0                             | 0                   | 0                   | 0                  | \$200,000           |
| <b>Capital Construction (Out Year)</b>                                    |             |                     |                               |                     |                     |                    |                     |
| Replace HVAC Infrastructure (Capital Renewal)                             | CCF         | 0                   | 18,694,607                    | 0                   | 0                   | 0                  | \$18,694,607        |
|                                                                           | CF          | 0                   | 0                             | 0                   | 0                   | 0                  | \$0                 |
| Accessibility, Life-Safety, Code, and Building Upgrades (Capital Renewal) | CCF         | 0                   | 0                             | 15,450,369          | 0                   | 0                  | \$15,450,369        |
|                                                                           | CF          | 0                   | 0                             | 0                   | 0                   | 0                  | \$0                 |
| Building Envelope Energy Efficiency Upgrades (Capital Renewal)            | CCF         | 0                   | 0                             | 0                   | 20,425,392          | 0                  | \$20,425,392        |
|                                                                           | CF          | 0                   | 0                             | 0                   | 0                   | 0                  | \$0                 |
| Police Building                                                           | CCF         | 0                   | 0                             | 0                   | 0                   | 7,000,000          | \$7,000,000         |
|                                                                           | CF          | 0                   | 0                             | 0                   | 0                   | 0                  | \$0                 |
| <b>Capital Construction Subtotals</b>                                     | <b>CCF</b>  | <b>18,488,778</b>   | <b>18,694,607</b>             | <b>15,450,369</b>   | <b>20,425,392</b>   | <b>7,000,000</b>   | <b>\$80,059,146</b> |
|                                                                           | <b>CF</b>   | <b>200,000</b>      | <b>0</b>                      | <b>0</b>            | <b>0</b>            | <b>0</b>           | <b>\$200,000</b>    |
| <b>Controlled Maintenance Subtotals</b>                                   | <b>CCF</b>  | <b>0</b>            | <i>See OSA Annual Report.</i> |                     |                     |                    | <b>\$0</b>          |
| <i>Total: State Funds</i>                                                 |             | <i>18,488,778</i>   | <i>18,694,607</i>             | <i>15,450,369</i>   | <i>20,425,392</i>   | <i>7,000,000</i>   | <i>\$80,059,146</i> |
| <b>Grand Total: All Fund Sources</b>                                      |             | <b>\$18,688,778</b> | <b>\$18,694,607</b>           | <b>\$15,450,369</b> | <b>\$20,425,392</b> | <b>\$7,000,000</b> | <b>\$80,259,146</b> |

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