



Auraria Higher Education Center

Auraria Science Building Addition and Renovations

Monthly Capital Projects Report



COMMUNITY COLLEGE OF
DENVER



METROPOLITAN STATE
COLLEGE of DENVER

University of Colorado Denver
Anschutz Medical Campus · Downtown Campus

Status Date: 30 June 2009
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Executive Summary

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Overview

Auraria Higher Education Center's (AHEC) \$121.16 million Science Building Addition and Renovations Project ("the Project") has been developed from and in concert with the approved updated Program Plan (PP) dated January 2007. The Project consists of the design and construction of a four story 195,475 square foot addition adjacent to Speer Boulevard, renovation of 118,030 square feet within the existing Science building and renovation of approximately 19,647 square feet of "backfill" space in the North and South Classroom buildings. The project will accommodate the Community College of Denver (CCD), Metropolitan State College of Denver (MSCD) and University of Colorado Denver (UCD) current and future science programmatic needs as identified in the January 2007 Updated Program Plan. The expectation is that the building changes completed during the Project will support the scientific needs of the three institutions until 2015. The Project has been arranged into five major packages to be designed by Anderson Mason Dale Architects (AMD), Architect (A/E), built by Haselden / Barton Malow (H/BM), Construction Managers/General Contractors (CM/GC) and managed by Jacobs Project Management Company (Jacobs), Program Manager (PM) until the project is complete in late 2010.

AHEC's Program Management Team (PMT), which includes representatives from CCD, MSCD, UCD, several AHEC Divisions, AMD, H/BM and Jacobs have established guidelines clarifying project intentions under the approved Program Plan. These guidelines establish equitable procedures for considering proposed changes and assure that the needs of the institutions identified in the Program Plan are met. Several committees established by the Auraria Board of Directors (ABD), including the Auraria Executive Committee (AEC), Facilities and Master Plan Sub-Committee (FMPSC), Science Building Steering Committee (SBSC) and the Science Building Committee (SBC) have been and will continue to work closely with the PM and the PMT to stay informed of progress and developing issues. The AEC, FMPSC and the SBSC are to assure work promised to the institutions is reasonably, equitably and responsibly planned and executed. Deans, Department Chairs and faculty from each institution have been involved with the project during the design phase as members of the SBC. The three institutions will stay informed and involved during the construction and move phases through the involvement of the institutional representatives on the PMT.

Jacobs publishes each "Monthly Capital Projects Report". Cost data included in this report is provided by AHEC's Administrative and Business Services Division and reviewed by Jacobs. Due to retainage costs being tracked by Jacobs, the "Cost-to-Date" amounts in this report may differ slightly from AHEC's accounting system. Cost data is current through 30 June 2009.

Budget

The overall project budget was increased from \$106.4 million to \$111.4 million due to the incorporation of the budget dollars associated with the State of Colorado's High Performance Building Certification program. The overall project budget was subsequently increased again from \$111.4 million to \$121.16 million to reflect the scopes of work to be completed through cash contributions from each of the three campus institutions. These scopes of work include additional FF&E, audio-visual equipment, and the build-out of the research labs.



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The campus has secured the remaining funding for the project with the State of Colorado. In addition to funds appropriated in 2007 and 2008, the State Legislature has approved use of Certificates of Participation (COPs) along with institutional cash contributions to fulfill the funding requirements for the project.

The CM/GC submitted an initial Guaranteed Maximum Price (GMP) cost estimate on 16 January 2008 based on the Design Development (DD) phase drawings. The project team completed Value Engineering (VE) modifications to reduce the GMP cost estimate. After the acceptance of the VE modifications and scope clarifications, the GMP was accepted at \$83,299,232. The accepted GMP was below the project Fixed Limit of Construction Cost of \$83.3 million. The GMP and FLCC are currently set at \$84.3 million having been increased due to the acceptance of additions and modifications to project scope. These additions and modifications include but are not limited to curtain wall finish, high performance building components, structural modifications and civil changes.

The cost impact for the asbestos abatement and delay is currently estimated at \$3 million. The \$3 million dollar impact consists of abatement activities, additional CM/GC and sub-contractors costs associated with schedule extension and delay claims, and additional consultant costs for observation and testing of the asbestos containing materials removed from the soil. The PM and CM/GC have completed the negotiations for cost increases associated with the delay claim. The delay claim Amendment has been fully executed. Steam line work began this month. Prior to removal of the existing line, asbestos-containing pipe wrap was discovered. It will be abated prior to removal of the existing steam line. Steam line installation will be completed by the end of July 2009.

The PM, AHEC and A/E have meet with Xcel Energy to discuss the campus power service that is at capacity, 8 mega watts, to determine a beneficial solution to support the science building addition and renovation. AHEC and Xcel will be converting the existing back-up electrical feed into a primary service feed and adding a new alternate back-up electrical feed to the campus to increase available power by 5.7 mega watts. The campus electrical service upgrades that are required for the science building will cost \$305,616 and will be completed by July 2009. The Science Building Program Team will also complete a fuse upgrade and coordination study on the Arts Building. The fuse upgrade and coordination study work is estimated to cost \$60,000. The PM is working with the CMGC and AHEC Facilities to schedule the fuse upgrade.

The PMT is closely managing project design processes to limit overages and/or additions to the Program Plan. They are also monitoring impacts on the cost of construction due to local market escalation and material prices. **Design / Bidding Schedule**
Construction Documents (CD) for BP#1 (Underground Utilities, Mass Excavation, Shoring and Over-lot Grading), BP#2 (Caissons, Footings and Basement Walls), BP#3 (Complete Structure, Under-slab MEP, Miscellaneous Structural Metal and Exterior Enclosure) and BP#4 (Completion of the Addition – Roofing, Interior Finishes, MEP, Casework, Equipment, Doors / Frames and Hardware, Landscaping and Hardscape) are complete and have been distributed to the project team, CM/GC and subcontractors. The design team has completed the 100% CD drawings for BP #5 (Renovation of the Existing Science Building and Backfill areas of North and South Classroom Buildings) and released the bid package for bid on 11 March 2009. Bids were received on 27 April 2009 with evaluation and Amendment to be



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complete by 31 July 2009. The GMP has been incorporated into the CM/GCs contract by Amendment. BP#1, BP#2, BP#3 and BP#4 have been bid and buyout has been incorporated into the CM/GCs contract by Amendment. The buyout of BP#5 will be added to the CM/GC's contract by Amendment once buyout is complete and accepted.

Construction Schedule

The construction schedule is five and a quarter months behind the original baseline schedule. The five and a quarter month delay consists of a two and a quarter month extension to avoid cost premiums with the build-out of the structure and a three month extension associated with asbestos abatement.

The CM/GC has completed the excavation, backfill, compaction, shoring system, various utility work, caissons, grade beams, foundation wall underground MEP, slabs on grade and the concrete super structure for all sections of the building. The water detention pond #2, east of North Classroom, is complete. Construction progress is tracking with the revised construction schedule.

In June 2009 the CM/GC began rough grading & irrigation on the north end of the building and in the courtyard. On the first and second levels the concrete floors have been cleaned and sealed. Final paint has been applied to the walls, installation of MEP trim and ceiling tile has begun. . Door & hardware installation began on the first and second floor. Lights, vents, sprinkler drops and diffusers were installed on the third floor as well as bathroom countertops and ceiling grid on the north end. On the south end of level three, drywall installation is complete and low voltage cable installation has begun. Low voltage cable installation and tele/data, security and AV wiring was completed on the fourth floor. In the basement, overhead MEP work is complete and low voltage cable installation has begun. .

In July 2009 the CM/GC will begin the prepunch on level one north. Final paint will be completed on level one south. Installation of the ceiling tile will continue on the first and second levels. Carpet and VCT flooring will be installed on the first and second levels. Installation of the growth chamber on level two south will continue. Casework installation will begin on level three and level four. Final MEP connections to all lab equipment will begin on level 3. Installation of bathroom countertops and bathroom fixtures will begin on level three south and level four north. Low voltage cable will be installed on level four south. Lights, vents, sprinkler drops and diffusers will be installed on the fourth and basement levels. Installation of ceramic tile and bathroom countertops will also begin in the basement. The project manager, CM/GC and AHEC conduct a monthly safety observation to consistently improve upon worker health, safety and environment. The walks to date have been productive and proactive in implementing pertinent safeguards for worker safety. There have been ten injuries, one near-miss and one incident on the project. All injuries were documented as first aid cases or as a reoccurring medical condition. All workers that have been injured have returned to work. The near-miss was due to a brick that was struck by equipment and fell from the fourth floor of the north elevation of the building. The brick struck the scissor lift being used by the subcontractor but no one was injured. The incident was due to improper work zone restrictions. The contractor who struck the brick should not have allowed other trades into the work zone during the wall framing activities. The project team is working together to improve the safety culture and behaviors on site. AHEC Management & Jacobs have had several discussions with HBM regarding safety



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improvements. AHEC, Jacobs & HBM will be meeting in the next several weeks to discuss safety lessons learned & improvement strategies for the project.

Scope

All scope items identified in the Approved Updated Program Plan dated January 2007 are included in the current design drawings. Some user groups have negotiated “space trades” to adjust the scope of work defined in the January 2007 Updated Program Plan. All space trades that have been incorporated by the A/E have been equitable and at the request of the building users. The project team has been able to maintain all program plan requirements while completing the GMP cost reconciliation and the VE modifications to reach the established budget.

Progress

- The project has experienced ten injuries, one near-miss and one incident; all injuries are being reported as first aid cases.
- The campus has secured full funding for the project with the State Legislature.
- Construction Documents for BP#1, BP#2, BP#3, BP#4 and BP#5 are complete.
- The GMP has been accepted and incorporated into the CM/GCs contract by Amendment. Pricing and buyout for BP#1, BP#2, BP#3 and BP#4 are complete and have been incorporated into the CM/GCs contract by Amendment. Bidding for BP#5 is complete and buyout will be complete by 31 July 2009.
- The project team has received the meter and water usage costs from Denver Water. The 6” meter and water usage fee is \$496,000. The project team was successful in reducing the initial cost of \$1.8 million by reevaluating the water usage for the building and negotiating the meter and water usage fee for the Project with Denver Water.
- Move management planning is making significant progress. The PM and AHEC have contracted Oz Project Delivery Services to complete the scope of work defined in the original RFP for Move Consultant work.
- The PM is coordinating design of the access control system that is outside of the A/E’s and CM/GC’s scope. The PM has received the priority card reader locations for the project which include all laboratories and classrooms as well as several sensitive areas designated by the institutions. The PM has coordinated the locations with the design team to provide the appropriate infrastructure within BP#4 & BP#5. Mathias Lock & Key has begun the installation of access control wiring at doors.
- The PM and AHEC Facilities Management are coordinating concurrent campus projects with the science building project.
- The PM, AHEC and A/E have met with Xcel Energy to discuss the campus power service that is at capacity, 8 mega watts, to determine a beneficial solution to support the science building addition and renovation. AHEC and Xcel will be converting the existing back-up electrical feed into a primary service feed and adding a new alternate back-up electrical feed to the campus to increase available power by 5.7 mega watts. The campus electrical service upgrades that are required for the science building will cost \$305,616 and will be completed by July 2009.



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- After the campus electrical upgrade is complete, the Science Building Program Team will also complete a fuse upgrade and coordination study on the Arts Building. The fuse upgrade and coordination study work is estimated to be \$60,000. The PM is working with the CMGC and AHEC Facilities to schedule the fuse upgrade.
- Xcel has also informed the campus that the current gas service to the existing science building will not meet the needs of the new addition and renovation once both buildings are complete. The PM, A/E, CM/GC and AHEC will work with Xcel to install a larger gas line to meet the increased needs of the addition and renovated building. Xcel has completed the design for the new gas line and the project anticipates completing the major installation during Spring Break 2009, with tie in and completion of the line occurring over the summer of 2009 once temporary gas is no longer needed and piping from the existing building to the addition is complete. The gas service upgrade to the building will cost the science building project \$15,726.
- The excavation, fill and soils compaction for the main building pad are 100% complete.
- The storm water line installation from the building to the detention pond and then from the detention pond to the inlet in Larimer Street is complete. The detention pond #2 excavation and in-fall and out-fall structures and landscaping are 100% complete.
- The building super structure is 100% complete.
- The building elevators are 95% complete.
- MSCD Faculty and Staff displaced by the renovation work will be temporarily relocated to the 4th and 5th floors of the Administration Building. Oz is working with the users to ensure temporary locations for academic programs can function as necessary in spaces provided in the Addition.
- In July 2009 the CM/GC will begin the prepunch on level one north. Final paint will be completed on level one south. Installation of the ceiling tile will continue on the first and second levels. Carpet and VCT flooring will be installed on the first and second levels. Installation of the growth chamber on level two south will continue. Casework installation will begin on level three and level four. Final MEP connections to all lab equipment will begin on level 3. Installation of bathroom countertops and bathroom fixtures will begin on level three south and level four north. Low voltage cable will be installed on level four south. Lights, vents, sprinkler drops and diffusers will be installed on the fourth and basement levels. Installation of ceramic tile and bathroom countertops will also begin in the basement.

Common Acronyms



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ABD	Auraria Board of Directors	ITS	Information Technology Services
AHEC	Auraria Higher Education Center	LAN	Local Area Network
A/E	Architect and/or Engineer	MSCD	Metropolitan State College of Denver
AEC	Auraria Executive Committee	O/A/C	Owner/Architect/Contractor
ARC	Architectural Review Committee	PE	Project Engineer
BP	Bid Package	PM	Project Manager
B&A	Bid and Award	PMT	Program Management Team
CCD	Community College of Denver	PO	Purchase Order
CDs	Contract / Construction Documents	PP	Program Plan
CIP	Capital Improvement Program	RFI	Request for Information
CM	Construction Manager	RFP	Request for Proposal
CM/GC	Construction Manager/ General Contractor	RFQ	Request for Qualifications
C/NC	Construction/Non-construction	SD	Schematic Design
CO	Change Order	SBC	Science Building Committee
DD	Design Development	SBSC	Science Building Steering Committee
FLCC	Fixed Limit of Construction Cost	SOQ	Statement of Qualifications
FMPSC	Facilities Master Plan Sub-Committee	Subs	Subcontractors or Sub-consultants
GC	General Contractor	UCD	University of Colorado Denver
GMP	Guaranteed Maximum Price	WAN	Wide Area Network
HVAC	Heating, Ventilation and Air Conditioning	VE	Value Engineering



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Data Date: 06/30/2009
Report Date: 07/30/2009

DESCRIPTION / TEAM
Owner: AHEC
Project Title: Auraria Science Building Addition and Renovations
State Project Number: P0632
Delivery Method: CM/GC GMP
Status: Design / Construction
Architect: Anderson Mason Dale Architects
Constructor: Haselden / Barton Malow
Client Project Director: Ken Ross
Client Project Executive: Barb Weiske
Project Manager: Jacobs Project Management Co.

SCOPE
This project involves the design and construction of a new four story 195,475 square foot addition, the renovation of 118,030 square feet of space within the existing Science Building and the renovation of approximately 19,647 square feet of "back fill" space in the North and South Classroom buildings.
This project will allow the Auraria campus to accomplish the programmatic missions of the three institutions; to provide facilities that promote a rich scientific education, allow for cutting edge scientific research and provide a variety of highly functional spaces for the sciences.



SCHEDULE			
	Baseline Target	Actual/Projected	Variance in Months
Design Start (NTP)	04/27/2007	04/27/2007	A
Schematic Design Complete	07/31/2007	07/31/2007	A
Schematic Design Approved	08/07/2007	08/07/2007	A
Procure CM/GC Services	06/01/2007	05/30/2007	A
Design Development Complete	11/12/2007	11/12/2007	A
Design Development Approved	12/17/2007	05/30/2008	A
GMP Approved	01/21/2008	05/30/2008	A
Const. Documents BP1 Complete	11/12/2007	11/12/2007	A
Const. Documents BP5 Complete	03/02/2009	11/21/2008	A
Const. Start Addition (NTP)	01/07/2008	01/14/2008	A
Const. Sub. Completion Addition	06/30/2009	12/17/2009	(5.6)
Const. Start Renovation	08/17/2009	02/01/2010	(5.5)
Const. Sub. Completion Renovation	04/01/2010	09/07/2010	(5.2)
Construction Completion	04/30/2010	10/07/2010	(5.3)
Project Completion	05/31/2010	11/07/2010	(5.3)

FUNDING			
	Source	FY	Amount
Approved			
Auraria Foundation		06-07	\$3,000,000
State of Colorado		06-07	\$2,429,100
State of Colorado		07-08	\$29,887,876
State COP & Cash		09-10	\$85,846,706
Funds			
State COP Bridge Loan		09-10	\$(13,443,873)
Payback			
State COP Bridge Loan		09-10	\$11,300,000
State COP Bridge Loan		09-10	\$13,443,873
State COP Bridge Loan		09-10	\$(11,300,000)
Payback			
SubTotal			\$121,163,682
Total Available Funding			\$121,163,682

NOTES and ISSUES
<ul style="list-style-type: none"> > The campus has secured all funding for the project with the State Legislature. > The overall budget was increased from \$106.4 million to \$111.4 million due to the addition of High Performance Building Program Funds. The budget was increased from \$111.4 million to \$121.16 million to reflect scopes to be completed through institutional cash contributions. > The Campus has determined the Swing Space Plan for the project which utilizes the 4th and 5th Floors of the Administration Building to support displaced faculty and staff. > Current CM/GC major construction activities include interior framing, drywall and painting, interior MEP & casework installation, carpet and VCT flooring. > Project team working with Xcel to upgrade campus electrical and gas service. Campus electrical upgrade will cost \$305 thousand and be complete by July 2009. > Schedule variance due to extension of concrete frame construction activity, and soils abatement activities.

COST / FORECAST						
	Current Budget	Actual Committed to Date	Additional Commitments to Complete	Total Projected Commitment	Variance	% Expended
	A	B	C	D=B+C	E=A-D	
Land / Building Aquisition	\$0	\$0	\$0	\$0	\$0	0.00 %
Professional Services	\$14,143,994	\$13,618,538	\$609,684	\$14,228,222	(\$84,228)	76.10 %
Construction or Improvements	\$89,874,031	\$69,971,787	\$19,902,244	\$89,874,031	\$0	65.12 %
Furniture, Fixtures, and Equipment	\$9,346,043	\$1,030,893	\$8,315,150	\$9,346,043	\$0	0.47 %
Miscellaneous	\$5,983,911	\$2,644,902	\$3,339,008	\$5,983,911	\$0	40.99 %
Project Contengencies	\$1,815,704	\$0	\$1,731,476	\$1,731,476	\$84,228	0.00 %
TOTAL	\$121,163,682	\$87,266,120	\$33,897,562	\$121,163,682	\$0	

