

## EXECUTIVE SUMMARY

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**Item Name:**            **Approval of Amended Capital Development Plan (ASU)**

   Action Item

**Requested Action:** Arizona State University (ASU) asks the board to approve its \$240.91 million Amended Capital Development Plan (CDP), which includes six new projects, as described in this executive summary.

### Previous Board Action

- FY 2022 – 2024 Capital Improvement Plan October 2020
  - Classroom Office Building
  - Mill Avenue Parking Structure
  - Building and Infrastructure Enhancements and Modifications
  - Classroom and Academic Renovations
  - Research Laboratory Renovations

### Overview and Alignment with Enterprise and University Goals and Objectives

- This ASU Amended CDP includes six new projects totaling \$240.91 million.
- ASU has developed this Amended CDP to align with the university’s campus master plan and the system enterprise and university strategic goals and objectives.
- The primary institutional priorities supported by this Amended CDP include:
  - **Academic Success** - The proposed projects will contribute to advancing the university’s twin pillars of academic success— leadership in academic excellence and accessibility and establishing national standing in academic quality. These projects will provide essential support to achieving these goals and metrics:
    - Improve first-year persistence to greater than 90 percent,
    - Enhance the university graduation rate to greater than 85 percent and more than 32,000 graduates, and
    - Enroll 125,000 online and distance-education degree-seeking students.
  - **Research and Development** - The proposed projects will support the university’s research goals, including the enhancement of its research competitiveness to more than \$1 billion in annual research expenditures by 2026. University research expenditures are used in part to advance the state of

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knowledge in various fields; purchase local goods and services; help create new companies and jobs; support the development of next-generation scientists and innovators; and attract top research talent to the faculty. Research and development expenditures also support the state's competitive advantage in the fields of science, technology and medicine.

- **Student Support and Engagement** - The proposed projects will enhance student development and learning to national leadership levels. These projects will foster student engagement in programs, events and activities that will enhance their learning and personal development by connecting them with their campus and community, building leadership skills, and preparing them for academic, personal and career success.
- **Campus Operations and Infrastructure Priorities** - To advance the university's academic and research goals, its facilities and related infrastructure must be maintained in a safe and reliable operational condition. Buildings and utility systems also must be cost-effective to maximize the use of the university's operational funds over time.
- **Life Safety and Code Compliance** - Life safety and code compliance issues must be resolved promptly and assume the highest priority in ensuring the safety and security of students, faculty, staff and visitors, as well as supporting the achievement of the university's academic and research goals.
- **Community Service** - Serving Arizona communities is an integral aspect of the university's mission and its programs. Enhancing and expanding the university's local impact and social embeddedness is vital to improving the quality of life and economic prosperity in Arizona.

### Amended Capital Development Plan Projects

- Following are the new projects proposed for Amended CDP approval:
  - Classroom Office Building (Tempe campus)
  - Mill Avenue Parking Structure (Tempe campus)
  - Building and Infrastructure Enhancements and Modifications
  - Classroom and Academic Renovations
  - Research Laboratory Renovations
  - IT Infrastructure Improvements
- Additional details on project costs, financing and scope are included in the tables for Exhibits 2 and 3 and the attached individual Project Justification Reports.

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### Fiscal Impact and Management

- This ASU Amended CDP, if fully implemented, will cost a total of \$240.91 million.
- Of the total amount, \$240.91 million will be financed using debt.
- ASU will:
  - a) sell one or more series of System Revenue Bonds to finance the project, as identified in Exhibit 2, costs of issuance and payments to a bond insurer or other credit enhancer, provided such payments result in a benefit that exceeds the amount of such payments;
  - b) sell bonds at a price at, above or below par, on a tax-exempt or taxable basis, in one or more series, at a fixed or variable rate of interest; and
  - c) enter into necessary agreements, including those related to bond insurance or other credit enhancement agreements
  - d) utilize a financial advisor, bond counsel and bond trustee for the financing. The system revenue bonds will be marketed and sold on a negotiated basis, either to one or more investment banking firms currently in a pool of bond underwriters procured by the three state universities or by the State of Arizona or by a direct sale to a bank or banks or other financial institutions.
- **Debt Ratio Impact:** Based upon the projects included in this Amended CDP and the projects included in the previous Amended CDP, Annual CDP, and the first year of the Capital Improvement Plan (CIP), the university's projected debt ratio is expected to reach its maximum in FY 2024 at 5.0 percent excluding SPEED debt and 5.5 percent including SPEED debt.
- The estimated total annual operations and maintenance costs (O&M) associated with the new projects in this Amended CDP are \$1,331,829.
- The tables in Exhibits 2 and 3 provide details on project financing, funding sources and debt ratio impact.

### Statutory and Policy Requirements

- Pursuant to ABOR Policy 7-107(E), each university shall submit an amendment to the CDP for projects requiring budget and/or scope increases and for new projects added outside of the regular CDP.
- Amended CDPs are reviewed by the Finance, Capital and Resources Committee and approved by the board.

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- Approval of the CDP and its amendments allows the university to complete design and planning, execute construction and financing agreements, and begin construction as outlined in policy.

**Committee Review and Recommendation**

The Finance, Capital and Resources Committee reviewed this item at its September 9, 2021 meeting, and recommended forwarding the item to the full board for approval.

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**Exhibit 1**

<b>Arizona State University Capital Project Status Report</b>							
Project Name	Gross Square Feet	Total Budget	Direct Construction Budget	Percent Work Completed	Percent to Gift Target	Date Last Board Approval	Original/ Revised Occupancy Date
<b>Ongoing Projects</b>							
ASU at Mesa City Center	118,386	\$10,000,000	\$10,000,000	77	N/A	11/7/2019	3/4/2022
ASU at Mesa City Center Tenant Improvements	118,386	\$23,500,000	\$0	0	N/A	2/11/2021	4/29/2022
Bateman Physical Sciences Center Improvements	90,400	\$60,000,000	\$48,000,000	12	N/A	2/11/2021	6/5/2023
Building & Infrastructure Enhancements and Modifications	N/A	\$32,000,000	\$17,600,000	89	N/A	11/15/2018	12/31/2021
Building & Infrastructure Enhancements and Modifications	N/A	\$20,000,000	\$14,000,000	41	N/A	2/13/2020	12/31/2023
Classroom and Academic Renovations	50,000	\$15,000,000	\$11,250,000	51	N/A	2/13/2020	2/28/2023
Durham Hall Renovation	137,067	\$65,000,000	\$48,600,000	92	N/A	2/8/2018	12/1/2021
Information Technology (IT) Infrastructure Improvements	N/A	\$32,000,000	\$32,000,000	81	N/A	9/28/2018	3/31/2022
Interdisciplinary Science and Technology Building (ISTB) 7	281,378	\$192,000,000	\$149,126,103	88	N/A	9/19/2019	12/23/2021
Multipurpose Arena	179,238	\$115,000,000	\$91,488,424	36	N/A	11/19/2020	11/30/2022
Research Laboratories and Faculty Startup	40,000	\$15,000,000	\$10,400,000	97	N/A	11/15/2018	10/31/2021
Research Laboratories and Faculty Startup	40,000	\$20,000,000	\$14,000,000	51	N/A	2/13/2020	2/28/2023
Thunderbird School of Global Management	111,000	\$67,000,000	\$47,500,000	98	N/A	9/19/2019	9/24/2021
University Drive Pedestrian Bridge and Plaza	N/A	\$13,600,000	\$11,433,381	72	N/A	6/12/2020	12/23/2021
<b>Completed Projects</b>							
Biomedical Research Laboratory Building Improvements	113,600	\$40,000,000	\$28,459,200	100	N/A	2/8/2018	3/23/2021
Classroom and Academic Renovations	50,000	\$10,000,000	\$7,500,000	100	N/A	11/15/2018	5/31/2021
Herald Examiner Building Tenant Improvements	74,030 NSF	\$40,000,000	\$28,143,414	100	33%	8/1/2021	8/4/2021
<b>Completed Third-Party Project</b>							
Downtown Phoenix Residence Hall and Entrepreneurship Center	284,000	N/A	N/A	100	N/A	9/19/2019	7/15/2021
This exhibit reflects the status of Arizona State University capital projects effective September 9, 2021.							

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**Exhibit 2**

<b>Arizona State University Amended Capital Development Plan</b>							
Project	Board Approval Status	Est. Square Footage	Project Cost	Amount Financed	Funding Method	Annual Debt Service	Debt Ratio
<b>New Academic/Support Projects</b>							
ASUT–Classroom Office Building	CIP 10/2020	178,263	\$107,100,000	\$107,100,000	System Revenue Bonds	\$5,924,200	0.16%
ASU–Building and Infrastructure Enhancements and Modifications	CIP 10/2020	N/A	\$20,000,000	\$20,000,000	System Revenue Bonds	\$1,390,600	0.04%
ASU–Classroom and Academic Renovations	CIP 10/2020	44,643	\$15,000,000	\$15,000,000	System Revenue Bonds	\$1,005,400	0.03%
ASU–Research Laboratory Renovations	CIP 10/2020	32,000	\$20,000,000	\$20,000,000	System Revenue Bonds	\$1,341,000	0.04%
ASU–IT Infrastructure Improvements	N/A	N/A	\$36,810,000	\$36,810,000	System Revenue Bonds	\$2,467,800	0.07%
<b>New Academic/Support Project Total</b>		<b>254,906</b>	<b>\$198,910,000</b>	<b>\$198,910,000</b>		<b>\$12,129,000</b>	<b>0.34%</b>
<b>New Auxiliary Project</b>							
ASUT–Mill Avenue Parking Structure	CIP 10/2020	401,874	\$42,000,000	\$42,000,000	System Revenue Bonds	\$2,289,500	0.06%
<b>New Auxiliary Project Total</b>		<b>401,874</b>	<b>\$42,000,000</b>	<b>\$42,000,000</b>		<b>\$2,289,500</b>	<b>0.06%</b>
<b>Total Amended CDP</b>		<b>656,780</b>	<b>\$240,910,000</b>	<b>\$240,910,000</b>		<b>\$14,418,500</b>	<b>0.40%</b>

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**Exhibit 3**

<b>Amended Capital Development Plan–Annual Debt Service by Funding Source</b>											
Project	Amount Financed	CIF	TUI	AUX	ICR	OLF	SLP	FGT	DFG	OTH	Total Annual Debt Service
<b>New Academic/Support Projects</b>											
ASUT–Classroom Office Building	\$107,100,000		\$5,924,200								\$5,924,200
ASU–Building and Infrastructure Enhancements and Modifications	\$20,000,000		\$1,390,600								\$1,390,600
ASU–Classroom and Academic Renovations	\$15,000,000		\$1,005,400								\$1,005,400
ASU–Research Laboratory Renovations	\$20,000,000		\$1,341,000								\$1,341,000
ASU–IT Infrastructure Improvements	\$36,810,000		\$2,467,800								\$2,467,800
<b>New Academic/Support Project Total</b>	<b>\$198,910,000</b>	<b>\$0</b>	<b>\$12,129,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,129,000</b>
<b>New Auxiliary Project</b>											
ASUT–Mill Avenue Parking Structure	\$42,000,000			\$2,289,500							\$2,289,500
<b>New Auxiliary Project Total</b>	<b>\$42,000,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,289,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,289,500</b>
<b>Total Amended CDP</b>	<b>\$240,910,000</b>	<b>\$0</b>	<b>\$12,129,000</b>	<b>\$2,289,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$14,418,500</b>

Funding Source Codes:

(CIF) Capital Infrastructure Fund  
(TUI) Tuition  
(AUX) Auxiliary

(ICR) Indirect Cost Recovery  
(OLF) Other Local Funds  
(SLP) State Lottery Proceeds

(FGT) Federal Grant  
(DFG) Debt Financed by Gifts  
(OTH) Other

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**Exhibit 3 (Continued)**

<b>Amended Capital Development Plan—Operation and Maintenance by Funding Source</b>										
Project	CIF	TUI	AUX	ICR	OLF	GFA	FGT	DFG	OTH	Est. Total Annual O&M
<b>New Academic/Support Projects</b>										
ASUT—Classroom Office Building		\$1,258,892								\$1,258,892
ASU—Building and Infrastructure Enhancements and Modifications										\$0
ASU—Classroom and Academic Renovations										\$0
ASU—Research Laboratory Renovations										\$0
ASU—IT Infrastructure Improvements										\$0
<b>New Academic/Support Project Total</b>	<b>\$0</b>	<b>\$1,258,892</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,258,892</b>
<b>New Auxiliary Project</b>										
ASUT—Mill Avenue Parking Structure			\$72,937							\$72,937
<b>New Auxiliary Project Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$72,937</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$72,937</b>
<b>Total Amended CDP</b>	<b>\$0</b>	<b>\$1,258,892</b>	<b>\$72,937</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,331,829</b>

Funding Source Codes:  
(CIF) Capital Infrastructure Fund  
(TUI) Tuition  
(AUX) Auxiliary

(ICR) Indirect Cost Recovery  
(OLF) Other Local Funds  
(GFA) General Fund Appropriation

(FGT) Federal Grant  
(DFG) Debt Financed by Gifts  
(OTH) Other



**EXECUTIVE SUMMARY**

**Exhibit A  
Arizona State University  
Tempe Campus Site Location Map**



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**Arizona State University  
Amended Capital Development Plan – Project Justification Report  
Classroom Office Building**

**Previous Board Action**

- FY 2022 – 2024 Capital Improvement Plan October 2020

**Project Justification/Description/Scope**

- This project will construct a multi-level facility to provide needed classroom, instructional, collaboration and office space to support the growth of academic programs that will enable student success. The facility will be located in the heart of the Tempe campus, just west of the Hayden Library, as depicted on the attached map as Exhibit B.
- The planned academic facility will replace Wilson Hall, which was constructed as an approximately 33,713 gross-square-foot residence hall in 1956. This facility is inadequate due to age and the growing demand for student-centric spaces that will accommodate technology and support the evolving program needs associated with new fields of learning and teaching methodologies.
- The new approximately 178,263 gross-square-foot classroom office building will consist of five floors above grade, programmable balcony space, a partial basement to support building services and a mechanical penthouse to be located on the roof. The facility will be comprised of classrooms of various sizes, academic office and support space, collaboration areas and student services spaces that will serve the entire university community.
- The facility will provide a centralized location for the School of Social Transformation, enable the colocation of the Sanford School of Social and Family Dynamics and include updated office, counseling and testing spaces for the Student Accessibility and Inclusive Learning Services (SAILS) office. The facility also will include needed replacement learning environments in multiple configurations to allow the university to vacate outdated learning spaces in other areas of the campus.
- Also encompassed in this project is the replacement of approximately 1,000 linear feet of the underground utility tunnel network that will serve this and other west campus facilities. The tunnel is in a deteriorating condition, and its replacement will ensure the safe, reliable and sustainable operation of campus utility and information technology systems, as well as reduce the university's deferred maintenance.

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- This project will support the primary institutional priority of demonstrating leadership in academic excellence and accessibility:
  - Improve first-year persistence to greater than 90 percent,
  - Enhance the university graduation rate to greater than 85 percent and more than 32,000 graduates, and
  - Enhance measured student development and individual student learning to national leadership levels.

### **Project Delivery Method and Process**

- This project will be delivered through the Design-Build (DB) delivery method. This approach was selected to facilitate a coordinated design with constant contractor input and guidance throughout the project development and costing phases.
- The project delivery work plan maximizes value through creating efficiencies in both the design phase and construction phase as a unified DB team, while ensuring complete alignment with ASU standards.
- ASU has selected Holder Construction with RSP Architects as the DB team for this project. The selection process for the DB team included fifteen responses and three team interviews were conducted.

### **Project Status and Schedule**

- The project is scheduled to begin in October 2021 when the scope of the DB team's guaranteed maximum price (GMP) is substantially complete and after all approvals are in place. The project is scheduled for completion in December 2023.

### **Project Cost**

- The budget for this approximately 178,263 gross-square-foot project is \$107.1 million. The budget represents an estimated construction cost for the Classroom Office Building of \$425 per gross square foot. The estimated total cost for the Classroom Office Building is \$531 per gross square foot.
- The Design-Builder will be at risk to provide the completed project within the agreed-upon GMP.

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### Fiscal Impact and Financing Plan

- The \$107.1 million project will be funded with system revenue bonds and amortized over an approximate thirty-year term. The annual debt service will be funded by tuition.
- The estimated incremental increase in annual O&M costs associated with this project of \$1,258,892 will be funded by tuition.
- **Debt Ratio Impact:** The projected incremental debt ratio impact for this project is 0.16 percent.

### Occupancy Plan

- No backfill plan is associated with this project.

### Statutory and Policy Requirements

- ABOR Policy 7-102(B) requires committee review and board approval of all capital projects with an estimated total project cost of \$10 million or more, including information technology and third-party projects.
- ABOR Policy 7-107(E) requires Amended CDP approval for new projects added outside of the regular CDP.

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**Capital Project Information Summary**

**University:** Arizona State University    **Project Name:** Classroom Office Building

**Project Description and Location:** This project will construct a multi-level facility to provide needed classroom, instructional, collaboration and office space to support the growth of academic programs that will enable student success. Also encompassed in this project is the replacement of approximately 1,000 linear feet of the underground utility tunnel network that will serve this and other west campus facilities. This academic building will replace the aging Wilson Hall, located in the heart of the Tempe campus, just west of Hayden Library, as depicted on Exhibit B.

**Project Schedule:**

Planning	March	2020
Design Start	April	2021
Construction	October	2021
Construction Completion	December	2023

**Project Budget:**

Total Project Cost	\$ 107,100,000
Total Classroom Office Building Cost	\$ 94,600,000
Total Tunnel Replacement Cost	\$ 12,500,000
Total Building Construction Cost	\$ 75,720,071
Total Tunnel Construction Cost	\$ 10,771,792
Total Building Cost per GSF	\$ 531
Total Building Construction Cost per GSF	\$ 425

**Change in Estimated Annual O&M Cost:**

Utilities	\$ 421,748
Personnel	298,993
All Other Operations	<u>538,151</u>
Subtotal	\$ 1,258,892

**Funding Sources:**

A: System Revenue Bonds	\$ 107,100,000
Debt Service Funding Sources:	Tuition
Operation/Maintenance	\$ 1,258,892
Funding Source:	Tuition

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**Capital Project Budget Summary**

**University:** Arizona State University  
**Project:** Classroom Office Building

	<u><b>Amended Capital Development Plan</b></u>
Capital Costs	
1. Land Acquisition	
2. Construction Cost	
A. New Construction	\$ 71,632,598
B. Tenant Improvement	
C. Special Fixed Equipment	3,010,000
D. Site Development (excl. 2.E.)	-
E. Parking and Landscaping	770,000
F. Utilities Extensions	10,771,792
G. Other* (Demolition/abatement)	307,473
Subtotal Construction Cost	<u>\$ 86,491,863</u>
3. Fees	
A. DB Pre-Construction	\$ 662,414
B. Architect/Engineer	5,983,212
C. Other	2,205,175
Subtotal Consultant Fees	<u>\$ 8,850,801</u>
4. FF&E Movable	\$ 2,700,000
5. Contingency, Design Phase	30,000
6. Contingency, Constr. Phase	3,950,934
7. Parking Reserve	-
8. Telecommunications Equipment	1,080,000
Subtotal Items 4-8	<u>\$ 7,760,934</u>
9. Additional University Costs	
A. Surveys, Tests, Haz. Mat. Abatement	\$ 405,000
B. Move-in Costs	225,000
C. Printing Advertisement	10,000
D. Keying, signage, facilities support	120,000
E. Project Management Cost	2,869,610
F. State Risk Mgt. Ins. (.0034 **)	366,792
Subtotal Addl. Univ. Costs	<u>\$ 3,996,402</u>
<b>Total Capital Cost</b>	<u><u>\$ 107,100,000</u></u>

\* Universities shall identify items included in this category.

\*\* State Risk Management Insurance factor is calculated on construction costs and consultant fees.

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**Exhibit B  
Classroom Office Building  
Site Location Map**



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**Arizona State University  
Amended Capital Development Plan – Project Justification Report  
Mill Avenue Parking Structure**

**Previous Board Action**

- FY 2022 – 2024 Capital Improvement Plan October 2020

**Project Justification/Description/Scope**

- The proposed project will construct an approximately 401,874 gross-square-foot, multi-level parking structure on a mixed-use development site at the northeast corner of Mill Avenue and Tenth Street in Tempe. This parking structure will replace an existing surface lot located at this site, as depicted on the attached map as Exhibit C.
- This ASU-owned parking structure will include one grade level and five above-grade levels with approximately 1,200 parking spaces and two passenger elevators. The parking structure will provide the essential capacity required to support the academic, cultural and social activities on the Tempe campus; a new on-site hotel and conference center; and future site development.
- The parking structure will be constructed of high-quality, durable materials and building systems to minimize operational, repair and replacement costs. The structure will have an anticipated useful life of at least fifty years.
- ASU will pursue Parksmart Gold certification for this project through Green Business Certification, Inc. Energy-efficient and sustainable components will be integrated into the structure design, including the infrastructure required to support the expected growth in low-emission, hybrid and electric vehicle usage and the future installation of rooftop photovoltaic panels to further the university's commitment to climate neutrality.
- The project also will include the installation of the required infrastructure to support the future addition of a thermal energy storage system under the parking structure. This infrastructure will support and integrate with the future construction of an adjacent district utility plant to provide essential utility services to campus facilities and an adjacent wrap structure to provide needed space for university academic programs and retail space. The addition of the academic and retail components will enhance the student experience and the university's impact and social embeddedness in the community it serves.



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### **Project Delivery Method and Process**

- The project will be constructed through the Design-Build (DB) delivery method. This approach was selected to streamline project delivery and to alleviate potentially adversarial project environments. This parking structure is suited to the DB delivery method due to its limited program requirements.
- The engineering firm of Kimley-Horn was hired to study the parking structure configuration options and compile the program requirements. The result of that effort is the Performance and Design Criteria document that was included in the Design-Build Request for Qualifications. This will be used as a basis for design by the DB team.
- ASU has selected McCarthy Building Companies with DFDG Architecture as the DB team for this project. The selection process included eight responses and five teams were interviewed.

### **Project Status and Schedule**

- Project construction is scheduled to start in July 2022 and completion is targeted for August 2023.

### **Project Cost**

- The budget for this approximately 401,874 gross-square-foot project is \$42.0 million. The budget represents an estimated construction cost of \$88 per gross square foot. The estimated total project cost is \$105 per gross square foot.
- The DB contractor will be at risk to provide the completed project within the agreed-upon GMP.

### **Fiscal Impact and Financing Plan**

- The \$42.0 million project will be funded with system revenue bonds and amortized over an approximate thirty-year term. The annual debt service will be funded by auxiliary revenue.
- The estimated annual O&M cost associated with this project of \$72,937 will be funded by auxiliary revenue.

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- **Debt Ratio Impact:** The projected incremental debt ratio impact for this project is 0.06 percent.

### **Occupancy Plan**

- No backfill plan is associated with this project.

### **Statutory and Policy Requirements**

- ABOR Policy 7-102(B) requires committee review and board approval of all capital projects with an estimated total project cost of \$10 million or more, including information technology and third-party projects.
- ABOR Policy 7-107(E) requires Amended CDP approval for new projects added outside of the regular CDP.

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**Capital Project Information Summary**

**University:** Arizona State University    **Project Name:** Mill Avenue Parking Structure

**Project Description and Location:** This project will construct an approximately 401,874 gross-square-foot, multi-level parking structure on the northeast corner of Mill Avenue and Tenth Street in Tempe, as depicted on Exhibit C. The project also will include the installation of the required infrastructure to support the future addition of a thermal energy storage system under the parking structure, an adjacent district utility plant and an adjacent structure to provide needed academic and retail space.

**Project Schedule:**

Planning	June	2019
Design Start	July	2021
Construction Start	July	2022
Construction Completion	August	2023

**Project Budget:**

Total Project Cost	\$	42,000,000
Total Project Construction Cost	\$	35,360,000
Total Project Cost per GSF	\$	105
Construction Cost per GSF	\$	88

**Estimated Annual O&M Cost:**

Utilities	\$	31,152
Personnel		28,606
All Other Operations		13,179
Subtotal	\$	72,937

**Funding Sources:**

Capital

A. System Revenue Bonds                                   \$ 42,000,000  
Debt Service Funding Source:   Auxiliary Revenue

Operation/Maintenance                                   \$ 72,937  
Funding Source:                                   Auxiliary Revenue

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**Capital Project Budget Summary**

**University:** Arizona State University  
Mill Avenue Parking Structure

	<b><u>Amended Capital Development Plan</u></b>
<b>Capital Costs</b>	
1. Land Acquisition	
2. Construction Cost	
A. New Construction	\$ 33,720,000
B. Tenant Improvements	-
C. Special Fixed Equipment	1,110,000
D. Site Development (excl. 2.E.)	100,000
E. Parking and Landscaping	200,000
F. Utilities Extensions	200,000
G. Other* (Demolition/abatement)	30,000
Subtotal Construction Cost	\$ 35,360,000
3. Fees	
A. CMAR Pre-Construction	\$ -
B. Architect/Engineer	1,401,707
C. Other	200,000
Subtotal Consultant Fees	\$ 1,601,707
4. FF&E Movable	\$ 50,000
5. Contingency, Design Phase	130,000
6. Contingency, Constr. Phase	3,204,992
7. Parking Reserve	100,000
8. Telecommunications Equipment	100,000
Subtotal Items 4-8	\$ 3,584,992
9. Additional University Costs	
A. Surveys, Tests, Haz. Mat. Abatement	\$ 150,000
B. Move-in Costs	15,000
C. Printing Advertisement	25,000
D. Keying, signage, facilities support	40,000
E. Project Management Cost	1,084,660
F. State Risk Mgt. Ins. (.0034 **)	138,641
Subtotal Addl. Univ. Costs	\$ 1,453,301
<b>Total Capital Cost</b>	<b>\$ 42,000,000</b>

\* Universities shall identify items included in this category

\*\* State Risk Management Insurance factor is calculated on construction costs and consultant fees.

EXECUTIVE SUMMARY

Exhibit C  
Mill Avenue Parking Structure  
Site Location Map



**EXECUTIVE SUMMARY**

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**Arizona State University  
Amended Capital Development Plan – Project Justification Report  
Building and Infrastructure Enhancements and Modifications**

**Previous Board Action**

- FY 2022 – 2024 Capital Improvement Plan October 2020

**Project Justification/Description/Scope**

- These projects encompass enhancements and modifications to ASU buildings and infrastructure across all four campuses that will address the university's primary areas of concern at all campuses. These concerns include, but are not limited to, life safety deficiencies; aging mechanical, critical building and utility distribution systems; and timeworn and unreliable elevators and roofs.
- Many components of the ASU built environment have exceeded their useful life and are incapable of effectively supporting the advancement of the university's mission of academic and research excellence. The planned projects will ensure the efficient, reliable and safe operation of all essential campus facilities, infrastructure and systems, including those that must continue without interruption to support the university's critical academic and research initiatives.
- These projects will enhance the quality of the campus infrastructure and systems, enable the university to maintain compliance with code requirements and address ABOR directives to reduce deferred maintenance. Projects essential for life safety, code compliance and the advancement of university strategic initiatives will be given top priority.

**Project Delivery Method and Process**

- Depending on the nature of the work, components of this project bundle may be delivered through the Design-Build (DB), Construction Manager at Risk (CMAR) or Job Order Contracting (JOC) methods.
- ASU has not yet selected a DB, CMAR, JOC contractor or design professional (DP) firm for any components of this project bundle. Contractors and DPs will be selected according to ABOR policy and Arizona law.

## EXECUTIVE SUMMARY

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### Project Status and Schedule

- DPs will be selected after project approval is in place. The project design will be completed approximately six to twelve months after the DP contract has been awarded for that component of work.
- General construction is scheduled to begin when the design is complete and after all approvals are in place. Construction on all project components is targeted for completion by December 2024.

### Project Cost

- The total budget for this project bundle is \$20.0 million.
- Independent cost estimates will be provided by the DP, DB, CMAR or JOC contractor after these selections are complete.
- For projects selected to use the DB or CMAR delivery method, the construction manager will be at risk to provide the completed project within the agreed-upon GMP.

### Fiscal Impact and Financing Plan

- The \$20.0 million project bundle will be funded with system revenue bonds and amortized over an approximate twenty-year term. The annual debt service will be funded by tuition.
- There are no expected increases in O&M costs associated with this project bundle.
- **Debt Ratio Impact:** The projected incremental debt ratio impact for this project bundle is 0.04 percent.

### Occupancy Plan

- These projects will not affect occupancy or programs but will renew building and campus infrastructure and support the advancement of the university's academic and research initiatives.

**EXECUTIVE SUMMARY**

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**Statutory/Policy Requirements**

- ABOR Policy 7-102(B) requires committee review and board approval of all capital projects with an estimated total project cost of \$10 million or more, including information technology and third-party projects.
- ABOR Policy 7-107(E) requires Amended CDP approval for new projects added outside of the regular CDP.



**EXECUTIVE SUMMARY**

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**Capital Project Information Summary**

**University:** Arizona State University    **Project Name:** Building and Infrastructure Enhancements and Modifications

**Project Description and Location:** These projects encompass enhancements and modifications to ASU buildings and infrastructure that will address the university’s primary areas of concern at all campuses. These concerns include, but are not limited to, life safety deficiencies; the replacement of aging mechanical, critical building and utility distribution systems; and the repair and replacement of timeworn and unreliable elevators and roofs.

**Project Schedule:**

Planning	April	2021
Design Start	April	2021
Construction Start	October	2021
Construction Completion	December	2024

**Project Budget:**

Total Project Cost	\$	20,000,000
Total Project Construction Cost	\$	16,000,000
Total Project Cost per GSF	\$	N/A
Construction Cost per GSF	\$	N/A

**Estimated Annual O&M Cost:**

Utilities	\$	0
Personnel		0
All Other Operations		0
Subtotal	\$	0

**Funding Sources:**

Capital:

A: System Revenue Bonds	\$	20,000,000
Debt Service Funding Sources:		Tuition

Operation/Maintenance	\$	0
Funding Sources:		Not Applicable

**EXECUTIVE SUMMARY**

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**Arizona State University  
Amended Capital Development Plan – Project Justification Report  
Classroom and Academic Renovations**

**Previous Board Action**

- FY 2022 – 2024 Capital Improvement Plan October 2020

**Project Justification/Description/Scope**

- ASU plans to renovate existing classrooms, create new classrooms of various sizes and add smaller instructional spaces at all campuses. This project bundle will be comprised of the renovation of approximately 44,643 gross square feet of university classroom and academic space. The renovations may include heating, ventilation and air conditioning (HVAC); plumbing and electrical; flooring; ceiling; roof; elevator; window; door; internal wall; and partition components, as well as upgrades to address life safety and Americans with Disabilities Act deficiencies. These projects will comprise multiple components at each ASU campus.
- The ASU Strategic Enterprise Framework identifies several goals that will be supported by this project bundle, including improved retention and graduation performance, curricular reform and improved student outcomes. The resources needed to achieve these goals include a continued investment in faculty and in space renovations that will support teaching innovations and improved student and faculty interactions. These projects will renovate worn areas that distract from teaching and learning effectiveness and create updated and growth spaces for academic programs to enable student learning and success.
- The components included in this project bundle will enhance the quality of the built environment, comply with code requirements for safety, and reduce deferred maintenance. Project components essential for life safety and code compliance and those that support university strategic initiatives will be given top priority.

**Project Delivery Method and Process**

- Depending on the nature of the work, components of this project bundle may be delivered through either the CMAR or the JOC method.
- ASU has not yet selected a CMAR, JOC contractor or design professional (DP) firm for any components of this project bundle. Contractors and DPs will be selected according to ABOR policy and Arizona law.

## EXECUTIVE SUMMARY

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### Project Status and Schedule

- DPs will be selected after project approval is in place. The design will be completed within approximately six to nine months after the DP contract is awarded.
- General construction for these projects is scheduled to begin when the design is complete and after all approvals are in place. Construction on all project components is targeted for completion by December 2024.

### Project Cost

- The total budget for this project bundle is \$15.0 million. This budget represents an estimated construction cost of \$235 per gross square foot. The estimated total project cost is \$336 per gross square foot.
- For this CDP phase, no preliminary external cost estimates have been provided by third-party consultants. DP and CMAR or JOC contractor teams have not yet been selected for these projects. Independent cost estimates will be provided by the DP, CMAR or JOC contractor after these selections are complete.
- For projects selected to use the CMAR delivery method, the construction manager will be at risk to provide the completed project within the agreed-upon GMP.

### Fiscal Impact and Financing Plan

- The \$15.0 million project bundle will be funded with system revenue bonds and amortized over an approximate twenty-year term. The annual debt service will be funded by tuition.
- There are no expected increases in O&M costs associated with this project bundle.
- **Debt Ratio Impact:** The projected incremental debt ratio impact for this project bundle is 0.03 percent.

### Occupancy Plan

- These project components will reconfigure and renew spaces for classroom and academic areas. Programs may be temporarily displaced as spaces are renovated.

**EXECUTIVE SUMMARY**

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**Statutory/Policy Requirements**

- ABOR Policy 7-102(B) requires committee review and board approval of all capital projects with an estimated total project cost of \$10 million or more, including information technology and third-party projects.
- ABOR Policy 7-107(E) requires Amended CDP approval for new projects added outside of the regular CDP.

**EXECUTIVE SUMMARY**

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**Capital Project Information Summary**

**University:** Arizona State University    **Project Name:** Classroom and Academic Renovations

**Project Description and Location:** This project bundle encompasses the renovation of approximately 44,643 gross square feet of classroom and academic space, including faculty and student space at all campuses. The renovations will include HVAC, plumbing and electrical, flooring, ceiling, roof, elevator, window, door, internal wall and partition components, as well as upgrades to address life safety and Americans with Disabilities Act deficiencies.

**Project Schedule:**

Planning	April	2021
Design Start	April	2021
Construction Start	October	2021
Construction Completion	December	2024

**Project Budget:**

Total Project Cost	\$	15,000,000
Total Project Construction Cost	\$	10,500,000
Total Project Cost per GSF	\$	336
Construction Cost per GSF	\$	235

**Estimated Annual O&M Cost:**

Utilities	\$	0
Personnel		0
All Other Operations		0
Subtotal	\$	0

**Funding Sources:**

Capital

A. System Revenue Bonds	\$	15,000,000
Debt Service Funding Sources:		Tuition
Operation/Maintenance	\$	0
Funding Sources:		Not applicable

**EXECUTIVE SUMMARY**

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**Arizona State University  
Amended Capital Development Plan – Project Justification Report  
Research Laboratory Renovations**

**Previous Board Action**

- FY 2022 – 2024 Capital Improvement Plan October 2020

**Project Justification/Description/Scope**

- Approximately 32,000 gross square feet of existing research laboratory and associated spaces at all campuses will be renovated in this project bundle to meet the requirements of the university's new and current research initiatives. Multiple wet and dry laboratory spaces, as well as infrastructure and building systems, will be upgraded to provide future flexibility and better space utilization through shared services. Renovation activities will involve building systems, such as heating, ventilation and air conditioning, electrical and mechanical, as well as fume hoods, laboratory gas lines and code-required life safety upgrades.
- Many existing university laboratories and building systems are inadequate, due to age and the requirements of emerging technologies. The poor condition of these spaces and the age of the building systems constrain the development of these strategically important areas. These projects will convert inadequate research laboratories into state-of-the-art facilities that will meet the growing demands of the university's research initiatives and comply with code requirements.
- Increasing research activity and the resultant arrival of new faculty continue to make laboratory renovation projects a university imperative. Spaces must be updated and renovated to address the needs of incoming researchers and to support successful grant applications. These laboratories will provide the core infrastructure required to enable faculty and students to compete in the global marketplace of ideas, not only stimulating advances in science and human health, but also potentially advancing the regional economy.
- The university's 2012 Masterplan Update identified a need for additional research space. This project bundle will contribute to meeting this need and accomplishing the goal of establishing the university as a leading global center for interdisciplinary research, discovery and development by 2026.

## **EXECUTIVE SUMMARY**

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### **Project Delivery Method and Process**

- Depending on the nature of the work, components of this project bundle may be delivered through either the CMAR or the JOC methods.
- ASU has not yet selected a CMAR, JOC contractor or DP firm for any components of this project bundle. Contractors and DPs will be selected according to ABOR policy and Arizona law.

### **Project Status and Schedule**

- DPs will be selected after project approval is in place. Design completion is targeted for approximately six to nine months after the DP contract is awarded.
- General project construction is scheduled to begin when the design is complete and after all approvals are in place. Construction on all project components is targeted for completion by December 2024.

### **Project Cost**

- The total budget for this project bundle is \$20.0 million. This budget represents an estimated construction cost of \$438 per gross square foot. The estimated total project cost is \$625 per gross square foot.
- For this CDP phase, no preliminary external cost estimates have been provided by third-party consultants. DP and CMAR or JOC contractor teams have not been selected for these project components. Independent cost estimates will be provided by the DP, CMAR or JOC contractor after these selections are complete.
- For project components selected to use the CMAR delivery method, the construction manager will be at risk to provide the completed project within the agreed-upon GMP.

### **Fiscal Impact and Financing Plan**

- The \$20.0 million project bundle will be funded with system revenue bonds and amortized over an approximate twenty-year term. The annual debt service will be funded by tuition.
- There are no expected increases in O&M costs associated with this project bundle.

## EXECUTIVE SUMMARY

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- **Debt Ratio Impact:** The projected incremental debt ratio impact for this project bundle is 0.04 percent.

### Occupancy Plan

- These project components will not affect occupancy or programs but will renew research spaces and support the advancement of the university's research initiatives.

### Statutory/Policy Requirements

- ABOR Policy 7-102(B) requires committee review and board approval of all capital projects with an estimated total project cost of \$10 million or more, including information technology and third-party projects.
- ABOR Policy 7-107(E) requires Amended CDP approval for new projects added outside of the regular CDP.



**EXECUTIVE SUMMARY**

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**Capital Project Information Summary**

**University:** Arizona State University    **Project Name:** Research Laboratory Renovations

**Project Description and Location:** This project bundle will encompass the renovation of approximately 32,000 gross square feet of existing research laboratory space to establish the university as a leading global center for interdisciplinary research, discovery and development. Multiple wet and dry lab spaces, as well as infrastructure and building systems, will be upgraded to maximize adaptable and flexible technologies.

**Project Schedule:**

Planning	April	2021
Design Start	April	2021
Construction Start	October	2021
Construction Completion	December	2024

**Project Budget:**

Total Project Cost	\$ 20,000,000
Total Project Construction Cost	\$ 14,000,000
Total Project Cost per GSF	\$ 625
Total Construction Cost per GSF	\$ 438

**Estimated Annual O&M Cost:**

Utilities	\$	0
Personnel		0
All Other Operations		0
Subtotal	\$	0

**Funding Sources:**

Capital

A. System Revenue Bonds	\$ 20,000,000
Debt Service Funding Sources:	Tuition

Operation/Maintenance	\$ 0
Funding Sources:	Not Applicable

**EXECUTIVE SUMMARY**

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**Arizona State University  
Amended Capital Development Plan – Project Justification Report  
IT Infrastructure Improvements**

**Previous Board Action**

- None

**Project Justification/Description/Scope**

- Improvements to the existing information technology (IT) infrastructure are planned to enable the university to meet the growing demand for increased capacity, speed, reliability and resilience. Additionally, the improvements will provide consistency and the ability to manage distributed resources simultaneously; support current and future innovation and entrepreneurship; and maintain a secure, sustainable network environment. These improvements will enhance the student experience and that of the greater ASU community, strengthening the interactive network of teaching, learning and discovery resources to reflect the scope of this comprehensive knowledge enterprise.
- This project bundle will provide improvements to all campuses, with a focus on three fundamental network and infrastructure elements: Network Infrastructure and Capacity; Research and High Performance Computing; and Facilities, Building Automation, Energy Management and Telemetry.

- **Network Infrastructure and Capacity:**

To support the university's ambitious academic and research initiatives, an upgrade of its core technologies and the implementation of a cloud-based decentralized network design are required. The planned uplift in network infrastructure and capacity will provide increased high-speed connectivity and a more efficient network capacity to and within student-centric and research-focused university facilities. The power infrastructure will be upgraded and the fiber capacity increased to support the planned new hardware. A security component will be included to enhance the university's capability to inspect, detect and remediate security concerns within its network infrastructure.

High performance wireless and access technologies also will be deployed to address critical gaps in wireless access in ASU campus environments where they will make the greatest impact in terms of coverage, performance and outcomes.

Dark fiber will be added to provide high-speed capacity to multiple research centers and campus facilities. This fiber will satisfy the university's near and long-

## EXECUTIVE SUMMARY

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term capacity requirements and replace and upgrade the more costly managed services currently serving several locations.

- **Research and High Performance Computing:**

A next generation high performance computing system will be deployed to address a critical need at ASU-- the growing demand for computational accelerators used in machine learning and artificial intelligence research. This system will increase the university's high performance computing capacity to enable access at a scale not currently possible. Additionally, the system will provide the university with an up-to-date network and storage system that will enable cost-efficient system expansions.

To provide the appropriate power, cooling, physical space and security at the scale required to support research computing, an upgrade of the university's data centers is required. Critical improvements are planned to enable the university to increase the capacity of its ISTB1 data center, while conserving energy, increasing system availability and meeting life safety requirements.

- **Facilities, Building Automation, Energy Management and Telemetry:**

Outdated multimode fiber will be replaced at the Tempe and West campuses and the existing building control firewall and network will be upgraded to improve system performance and allow for scalability. These improvements will enhance building security and the health and safety of the university community, as well as enable real-time monitoring and maintenance of university building systems to increase energy efficiency and advance the university's sustainability goals.

Pneumatic and decentralized building heating, ventilation and air conditioning (HVAC) systems will be converted to a digital building automation and energy management system in the Tempe campus facilities included in this first phase of improvements. The benefits of this system upgrade will include enhanced real-time monitoring and response, improved comfort and ventilation, and reduced maintenance costs.

A hybrid data center infrastructure management system will be developed to improve the university's inventory tracking, capacity management, facilities telemetry, power redundancy and energy management capabilities. Redundant power systems will be installed in ASU facilities to enable ubiquitous service resiliency and increased life safety. The existing uninterruptable power systems will be upgraded to address capacity deficiencies and to reduce maintenance costs.

## EXECUTIVE SUMMARY

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### **Project Delivery Method and Process**

- The CMAR, DB and JOC methods will be used to deliver these projects, based upon the needs of the individual components.

### **Project Status and Schedule**

- The planned improvements will be scheduled to start after all project approvals are in place. Project completion is targeted for December 2024.

### **Project Cost**

- The total budget for this project bundle is \$36.81 million.
- The project costs are based upon current market-competitive pricing. A competitive procurement process, including at least three contracted vendors, will be used to complete these IT infrastructure improvements.

### **Fiscal Impact and Financing Plan**

- The \$36.81 million project bundle will be funded with system revenue bonds and amortized over an approximate twenty-year term. The annual debt service will be funded by tuition.
- There are no expected increases in O&M costs associated with this project bundle.
- **Debt Ratio Impact:** The projected incremental debt ratio impact for this project bundle is 0.07 percent.

### **Occupancy Plan**

- The installation of the planned improvements will not impact occupancy or programs, but will support the advancement of the university's academic and research initiatives.

**EXECUTIVE SUMMARY**

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**Statutory/Policy Requirements**

- ABOR Policy 7-102(B) requires committee review and board approval of all capital projects with an estimated total project cost of \$10 million or more, including information technology and third-party projects.
- ABOR Policy 7-107(E) requires Amended CDP approval for new projects added outside of the regular CDP.

**EXECUTIVE SUMMARY**

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**Capital Project Information Summary**

**University:** Arizona State University **Project Name:** IT Infrastructure Improvements

**Project Description and Location:** The planned improvements to the university's IT infrastructure at all campuses will enable the university to meet the growing demand for increased capacity, speed, reliability and resilience of its networked services. Additionally, the improvements will provide consistency and the ability to manage distributed resources simultaneously; support current and future innovation and entrepreneurship; and maintain a secure, sustainable network environment.

**Project Schedule:**

Planning	October	2021
Design Start	October	2021
Installation Start	December	2021
Installation Completion	December	2024

**Project Budget:**

Total Project Cost	\$	36,810,000
Total Project Construction Cost	\$	N/A
Total Project Cost per GSF	\$	N/A
Construction Cost per GSF	\$	N/A

**Estimated Annual O&M Cost:**

Utilities	\$	0
Personnel		0
All Other Operations		0
Subtotal	\$	0

**Funding Sources:**

Capital	\$	36,810,000
Debt Service Funding Source:		Tuition
Operation/Maintenance	\$	0
Funding Source:		Not Applicable