

RB31
University of Maryland Baltimore County
 University System of Maryland

Capital Budget Summary

State-owned Capital Improvement Program
 (\$ in Millions)

Projects	Prior Auth.	2018 Request	2019 Est.	2020 Est.	2021 Est.	2022 Est.	Beyond CIP
Interdisciplinary Life Sciences Building	\$17.740	\$40.249	\$56.855	\$7.644	\$0.000	\$0.000	\$0.000
Utility Upgrades and Site Improvements	0.000	0.000	0.000	1.215	1.645	13.465	0.000
Total	\$17.740	\$40.249	\$56.855	\$8.859	\$1.645	\$13.465	\$0.000

Fund Source	Prior Auth.	2018 Request	2019 Est.	2020 Est.	2021 Est.	2022 Est.	Beyond CIP
GO Bonds	\$17.700	\$40.249	\$56.855	\$8.859	\$1.645	\$13.465	\$0.000
Total	\$17.700	\$40.249	\$56.855	\$8.859	\$1.645	\$13.465	\$0.000

CIP: *Capital Improvement Program*
 GO: general obligation

Summary of Recommended Bond Actions

1. Interdisciplinary Life Sciences Building

Approve continued funding for the construction and equipping of the Interdisciplinary Life Sciences Building.

2. SECTION 12 – University of Maryland Baltimore County – Interdisciplinary Life Sciences Building

Approve pre-authorization of \$56.9 million to complete construction.

Budget Overview

Interdisciplinary Life Sciences Building

The Interdisciplinary Life Sciences Building will address a shortage of teaching space to support science, technology, engineering, and mathematics (STEM) programs and provide interdisciplinary research space supporting life sciences and graduate education. Additionally, it will address deficiencies in research support facilities including animal research space.

The 2016 *Capital Improvement Plan* (CIP) programmed \$2.6 million in fiscal 2017 to complete design of the facility with funding for construction deferred to fiscal 2018. The \$105.1 million of construction funding was split funded over three years from fiscal 2018 to 2020. The General Assembly accelerated the project by authorizing \$5.0 million to begin construction in fiscal 2017. In addition, language was added pre-authorizing \$60.0 million and \$40.0 million to fund construction in fiscal 2018 and 2019, respectively. The 2017 CIP programs \$40.3 million; \$36.1 million to continue construction and \$4.2 million for equipment that needs to be installed in the ceilings and within the walls during construction in fiscal 2018. The remaining \$56.9 million to complete construction is programmed for fiscal 2019. The timing of the funding aligns with the projected cash flow needs of the project. Acceleration of the project resulted in cost savings of \$7.2 million reducing the total cost to \$122.5 million. In addition, the size of the building slightly increased from 70,857 net assignable square feet (NASF)/131,000 gross square feet (GSF) to 71,506 NASF/133,385 GSF.

The University of Maryland Baltimore County (UMBC) relies on active learning instructional methods in STEM disciplines, in which students work in small groups to solve problems and develop ideas and principles needed for a deeper understanding of the material. These classrooms are configured differently from the traditional instructional spaces and incorporate more technology. UMBC has two active-learning classrooms that are used all day during the week. Additional active-learning classrooms are needed in order to accommodate the enrollment growth in STEM programs, and multi-disciplinary teaching laboratories are needed to support courses taught in

the active-learning classrooms to provide hands-on experiments in a wet laboratory setting. Overall, in the last 10 years, undergraduate and graduate STEM enrollment grew 50% leading to a shortage of classroom and teaching laboratories.

There is a shortage of interdisciplinary research space supporting life sciences and graduate education resulting in UMBC not being able to grow research programs and limiting its ability to compete for research grant and contract funding. Currently, life science research laboratory space is located in various buildings throughout campus and is fully occupied. Furthermore, there are no research laboratories designed to support interdisciplinary research.

The animal research facilities are insufficient to perform animal procedures and lack dedicated quarantine rooms. The animal facilities are currently located in two locations: (1) 2,361 NASF in the Biological Sciences building that was designed more than 30 years ago; and (2) 1,976 NASF in Sondheim Hall, a general classroom building not designed for this purpose. The facilities have poor ventilation and inadequate humidity control leading to odor and the presence of allergens. An insufficient number of procedure spaces results in the animals being transported to the principal investigator's laboratory for routine procedures. The lack of quarantine rooms puts all animals in the facility at risk of being infected. If one animal becomes infected, this results in the need to treat all of the animals to prevent the spread of infections, which is expensive and time consuming. In addition, animal research protocols involving the use of biological agents that are infectious to humans cannot be performed. The existing facility in the Biological Sciences building is at full capacity and can only accommodate six researchers. Furthermore, existing facilities cannot be retrofitted to gain the Association for Assessment and Accreditation of Laboratory Animal Care accreditation, thereby affecting UMBC's ability to obtain funding for animal-based research.

Overall, the faculty will provide 17,458 NASF and 6,698 NASF of classroom and teaching laboratory space, respectively; 28,699 NASF of research laboratory space; and 11,322 NASF of office and conference space. In addition, 6,536 NASF is provided for animal facilities.

Operating Budget Impact Statement

Executive’s Operating Budget Impact Statement – State-owned Projects (\$ in Millions)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
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Interdisciplinary Life Science Building						
	Estimated Operating Cost	\$0.000	\$4.035	\$4.930	\$4.972	\$5.016
	Estimated Staffing	0.00	1.11	3.34	3.34	3.34
Total Operating Impact						
	Estimated Operating Cost	\$0.000	\$4.035	\$4.930	\$4.972	\$5.016
	Estimated Staffing	0.00	1.11	3.34	3.34	3.34

Summary of Other Projects in the Capital Improvement Program

Utility Upgrades and Site Improvements

Funding totaling \$1.2 million to begin planning for utility upgrades and site improvements is programmed for fiscal 2020. This project will replace deteriorated utility system components, provide additional utility system capacity to support current and future buildings, and respond to State environmental regulations. Projects include: replacement of primary electrical distribution systems, high-temperature hot and chilled water distribution lines, and water lines/valves; replacement, upgrade, and/or addition of stormwater management best practices to prevent pollution of downstream watersheds; and the upgrade and expansion of the fiber optic network to create the redundancy and capacity necessary to provide reliable and efficient data and telecommunication services to the campus. In addition, pedestrian pathways and outdoor gathering areas will be restored and improved in conjunction with the underground utility construction. The project is estimated to cost \$16.3 million and is a new addition to the 2017 CIP.

Pre-authorizations and De-authorizations

Exhibit 1 shows the pre-authorization for the Interdisciplinary Life Sciences Building as previously discussed.

Exhibit 1 Pre-authorizations

<u>Project</u>	<u>FY 19</u>	<u>FY 20</u>	<u>FY 21</u>	<u>FY 22</u>	<u>Reason</u>
Interdisciplinary Life Sciences Building	\$56.855	\$0.000	\$0.000	\$0.000	Allows completion of construction.

Source: Department of Budget and Management, 2017 *Capital Improvement Program*

GO Bond Recommended Actions

1. Approve \$40.2 million in general obligation bonds to continue construction and equipping of the Interdisciplinary Life Sciences Building.
2. Approve pre-authorization of \$56.9 million in general obligation bonds for fiscal 2019 to complete construction of the Interdisciplinary Life Sciences Building.