

**BOARD OF REGENTS**  
EASTERN MICHIGAN UNIVERSITY

SECTION:
DATE: March 20, 2007

**RECOMMENDATION**

**USE AND FINANCING STATEMENT – MARK JEFFERSON SCIENCE COMPLEX**

**ACTION REQUESTED**

It is recommended that the Board receive and place on file the Use and Financing Statement for the Mark Jefferson Science Complex project.

**STAFF SUMMARY**

At the January 19, 2007 meeting the Board of Regents authorized the administration to proceed with the renovation and modernization of the Mark Jefferson Science Complex Project. The projected cost for the entire renovation and addition is \$100 million.

The University is submitting the attached Use and Financing Statement to the Joint Capital Outlay Subcommittee (JCOS). Previously, any non-state funded project costing in excess of \$1.0 million was required to be submitted and approved by JCOS.

**FISCAL IMPLICATIONS**

None.

**ADMINISTRATIVE RECOMMENDATION**

The proposed Board action has been reviewed and is recommended for Board approval.

University Executive Officer

Date \_\_\_\_\_



# EASTERN MICHIGAN UNIVERSITY

## USE & FINANCE STATEMENT



MARK JEFFERSON

BUILT 1969

**PROJECT: SCIENCE COMPLEX PROJECT**

**FUNDING: BOND PROCEEDS**

**AMOUNT: \$100,000,000.00**

IN COMPLIANCE WITH JOINT CAPITAL OUTLAY SUBCOMMITTEE POLICY # 3

JOINT CAPITAL OUTLAY SUBCOMMITTEE

USE AND FINANCE STATEMENT

**Eastern Michigan University**

**MARK JEFFERSON – SCIENCE COMPLEX PROJECT**

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USE AND FINANCE STATEMENT

Eastern Michigan University

**Mark Jefferson – Science Complex Project**

USE STATEMENT

The renovation and modernization of the Mark Jefferson Science Complex Project has been identified in the University’s Five-Year Capital Outlay Plan since 1998. Currently, the Mark Jefferson building houses the primary facilities for the College of Arts and Sciences (CAS). Built in 1969, the five story, 180,802 square-foot building has deficiencies that include aging mechanical and electrical system conditions. The building also lacks the technology and specialized academic spaces that are essential for today’s student academic experience.

The programming process projected the academic scientific need through 2014, and identified an additional significant space requirement for the CAS departments. This requires the university to renovate the current Mark Jefferson Science building and to construct 151,000 square feet of new space. A portion of this newly constructed space will be dedicated for future growth and departmental expansion and remain unfinished until future need. The additional science square footage would physically connect the existing Mark Jefferson and Strong science buildings. The new complex facility will provide multi-disciplinary research and teaching laboratories for all science disciplines. The Mark Jefferson Science Complex will serve as a landmark for the University.

The project will consist of two phases. Phase 1 will include a new addition to the Mark Jefferson building. This will provide biology, chemistry, and psychology departments with new science laboratories and research space. Renovations to the current building would be Phase 2. The scope of the renovation and modernization of Mark Jefferson will focus on infrastructure needs including; mechanical system, electrical systems/building transmission loop, structural improvements to the building exterior, and roof replacement. In addition, interior improvements will address classroom modernization needs, faculty office updates, increase scientific instrumentation, and improve the student commons areas.

Today, Eastern Michigan University’s science facilities lack the specialized spaces, building systems, and laboratory features necessary for modern science education and research. Currently, both additional space and renovation of existing space is needed for: general instruction, instructional laboratories, scientific equipment, and building systems. Improvements to the science complex will promote science and ensure the success of students with learning space that are research-rich, with interdisciplinary learning environments. Mark Jefferson was programmed and designed when science education, experiential learning, and the nature of student/faculty research was significantly less sophisticated, and clearly less reliant on technology.

**Need**

Renovation of the Mark Jefferson building continues to be a critical need of the University. The infrastructure of Mark Jefferson, which includes exterior masonry wall and roof systems, etc, is in serious need of repair and upgrades. Mechanical systems in scientific settings are one of the most vital, diverse, and complex of any building system. Expensive and labor intensive preventative and predictive maintenance programs are needed to keep these delicate systems in equilibrium and provide a safe quality learning environment. Failures in any one of the multiple sub-systems create reactive deficiencies in other sub-systems. They seriously detract from the quality of the learning environment, cause indoor air quality issues, and lead to premature deterioration of the facility. An additional consequence is acceleration of operating costs well above the norm.

Many of the existing mechanical system components have outlived or are nearing the end of their useful life are operating inefficiently and are compromising the quality of the learning environment. Through extraordinary efforts, these systems are being kept in service at a high cost. Internal electric distribution systems are also deficient, with outdated and inefficient components. This building can no longer accommodate the needs of the University in the contexts of instructional space, research space, health and safety, and general programmatic need. Thus, the current facilities impair the University's ability in the scientific disciplines to provide an exceptional learning environment and facilitate faculty and student research.

**Justification**

In 1996, the University developed a project team consisting of facility representatives from the departments of biology, chemistry, geography and geology, physics and astronomy, psychology, mathematics, computer science, associated health professions, and the college of technology, along with administrative representatives. The project team assessed the condition of the existing science buildings to determine its overall state of use and repair and made recommendations for upgrading these existing facilities. In 1998, the University hired an architectural firm, Quinn Evans/Architects and Einhorn Yaffee Prescott, Architects and Engineers to assist in developing institutional and academic goals for a new science complex concept. In 2005, the University retained the architectural firm, DSA Architects and the Smith Group to develop a program statement for the Mark Jefferson Science Complex project. This was presented and approved by the Board of Regents in September of 2006. The scope of this renewal project will rehabilitate Mark Jefferson's infrastructure deficiencies. Furthermore, this renovation will renew a mix of laboratory and classroom spaces to support general education/basic studies curriculum, undergraduate and graduate programming, and faculty/student research. With these improvements, the University will be able to expand its curriculum to meet the needs of today's scientific educators, and to be competitive among universities of comparable size and instructional mission.

1. **List the activities and functional spaces accommodated in the project with the approximate square foot area for each appropriate similar group or individual category.**

The building use will remain an Academic/Science building comprised of the following general spaces:

a.	Existing Net Usable Laboratory Space	26,725 sq. ft.
b.	Existing Net Usable Office Space	21,849sq. ft.
c.	Existing Net Usable Instructional Space	53,363 sq. ft.
d.	Existing Circulation, Maintenance, and Building Structure	78,865 sq. ft.
e.	Addition Net Usable Laboratory / Research Space	52,358 sq. ft.
f.	Addition Net Usable Office Space	9,535 sq. ft.
g.	Addition Net Usable Instructional Space	24,130 sq. ft.
h.	Addition Circulation, Maintenance, and Building Structure	64,944 sq. ft.
	<b>TOTAL</b>	<b>331,802 sq. ft.</b>

2. **When applicable, describe how the activities are being accommodated at the present time, and explain the proposed disposition of any existing facilities.**

Mark Jefferson Science Building was built in 1969 to serve as an academic and science education building. Mark Jefferson has remained with this use since it was built. As identified in item #1 above, general building amenities are as follows:

- Academic / Instructional Rooms
- Science Laboratories
- Offices, Conference Rooms, and Administration Space
- Academic / Scientific Storage Space

As identified, attention to deferred maintenance items will continue throughout the building with the most notable challenges to include: heating controls, bathroom renovations, ADA and barrier free access, and fire suppression.

3. **Explain the proposed extent of use by students, faculty or the community.**

Mark Jefferson Science Building will retain its use as an academic facility dedicated to scientific study.

a) **If partial instructional use is planned, estimate the percentage and furnish complete scheduling information.**

This building is utilized as a scientific instructional facility, with associated laboratory and research space. Classes are generally held each semester from 8:00 a.m. through 10:00 p.m. Monday through Friday, with varying classes scheduled on Saturdays.

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- b) **If the project will be used by the general public, will it compete with other private or community facilities? If so, what is the anticipated effect?**

Mark Jefferson Science Building will be utilized as an academic and science research facility, and not intended for use by the general public.

4. **Furnish an 8-1/2" x 11" campus map indicating the location of the project and describe its relationship to the long-range development plan.**

A campus map has been attached for reference. See exhibit 'A'. Mark Jefferson is the primary science building on campus and is essential for the growth and maintenance of the scientific education at Eastern Michigan University.

5. **When available for new projects only, include an 8-1/2" x 11" copy of schematic floor and site plans.**

Based on successful approval, the University will contract with an architect to create a schematic floor plan.

7.

JOINT CAPITAL OUTLAY SUBCOMMITTEE  
PROJECT DATA SHEET

USE AND FINANCE STATEMENT  
March 20, 2007

Agency/Institution: Eastern Michigan University

Project Title: Mark Jefferson - Science Complex Renovation & Addition

Contact Person/Phone Number: Janice Stroh 734.487.2031

Phase Report: Not Applicable - Project totals include renovation and new construction costs.

Designated Gross Area (square feet): 331,802  
 Renovation (square feet) 180,802  
 New Addition (square feet) 151,000

General Project Description (use as much space as needed):

Please see the attached project description

*Project Estimate Summary*

	Title	Total Cost	\$/Gross sq. ft.	% Total
1	Site Construction (demo only)	\$100,000	\$0.30	0.10%
2	Concrete	\$2,610,000	\$7.87	2.61%
3	Masonry	\$2,910,000	\$8.77	4.40%
4	Metals	\$4,400,000	\$13.26	4.40%
5	Wood and Plastics	\$520,000	\$1.57	0.52%
6	Thermal and Moisture Protection	\$1,190,000	\$3.59	1.19%
7	Doors and Windows	\$1,570,000	\$4.73	1.57%
8	Finishes	\$6,740,000	\$20.31	6.74%
9	Specialties	\$610,000	\$1.84	0.61%
10	Equipment	\$4,490,000	\$13.53	4.49%
11	Furnishings	\$5,640,000	\$17.00	5.64%
12	Special Construction	\$630,000	\$1.90	0.63%
13	Conveying Systems	\$190,000	\$0.57	0.19%
14	Mechanical	\$21,620,000	\$65.16	21.62%
15	Electrical	\$8,270,000	\$24.92	8.27%
	<b>Subtotal Building Estimate</b>	<b>\$61,490,000</b>	<b>\$185.32</b>	<b>61.49%</b>
	General Conditions	\$23,780,000	\$71.67	23.78%
	Overhead and Profit	\$1,490,000	\$4.49	1.49%
	Design and Bidding Contingencies	\$10,250,000	\$30.89	10.25%
	<b>Total Building Construction</b>	<b>\$35,520,000</b>	<b>\$107.05</b>	<b>35.52%</b>
	Site Construction (see below)	\$2,990,000	\$9.01	2.99%
	<b>Total Project Estimate</b>	<b>\$100,000,000</b>	<b>\$301.38</b>	<b>100.00%</b>

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*Project Estimate Summary (Site)*

Title		Cost		
A	Site Clearing	\$13,000	\$0.04	0.01%
B	Earthwork	\$264,000	\$0.80	0.26%
C	Pavements	\$389,000	\$1.17	0.39%
D	Site Features / Improvements	\$76,000	\$0.23	0.08%
E	Concrete Walks	\$197,000	\$0.59	0.20%
F	Athletic Fields	\$0	\$0.00	0.00%
G	Lawn	\$90,000	\$0.27	0.09%
H	Utilities - Plumbing	\$25,000	\$0.08	0.03%
I	Utilities - Heating/Cooling	\$25,000	\$0.08	0.03%
J	Utilities - Electrical	\$382,000	\$1.15	0.38%
K	Utilities - Water & Sewer System	\$512,000	\$1.54	0.51%
L	Planting	\$386,000	\$0.15	0.39%
<b>Subtotal Site Estimate</b>		<b>\$2,359,000</b>	<b>\$0.81</b>	<b>2.36%</b>
General Conditions		\$309,000	\$0.59	0.31%
Overhead and Profit		\$77,000	\$0.06	0.08%
Design and Bidding Contingencies		\$247,000	\$0.16	0.25%
<b>Total Site Construction</b>		<b>\$2,992,000</b>	<b>\$0.44</b>	<b>2.99%</b>

Sources of Financing

State of Michigan (please specify): \$0.00

Other Public Funds (please specify): \$0.00

Private Funds (please specify): \$0.00

University Funds (please specify): \$0.00

Student Fees / Tuition (please indicate if the source is new or existing) \$100,000,000

Project funds of \$100,000,000.00 will be provided primarily through the sale of bonds. The University is prepared, and has the financial capacity to execute such borrowing. Repayment of these bonds will be funded by the 4% tuition and fee increase that began in FY2006 to address the campus' needs. The balance of the required funding will come from the 4% tuition and fee increase that has been collected since FY2006, but has not yet been spent.

Other Revenue (please specify): \$0.00

**Total:** \$100,000,000

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Estimated Annual Operating Costs:

Year 1	\$1,709,010
Annually thereafter	
No net yearly operating change, other than Construction Price Index, is estimated for this project.	Year 1 + CPI

Operating Source(s) of Financing (please specify):

Please see below

Impact of project financing on tuition (construction, site development, and operations)  
**No additional tuition and financial increases will be required to fund the capital project.**  
Additional tuition and financial increases may be required beginning for the year 2010  
to provide base budget for the additional operating costs. The final determination will  
be made closer to the completion of the building if existing base budget funds cannot  
be identified.

Estimated Completion Date:

Month: February

2011

Note:

This form is included with all Use and Finance Statements submitted to the  
Department of Management and Budget and the Joint Capital Outlay Subcommittee  
in accordance with Joint Capital Outlay Subcommittee Policy No. 3