

**SOUTH DAKOTA BOARD OF REGENTS
JOINT APPROPRIATIONS COMMITTEE BUDGET REQUEST HEARINGS
JANUARY 2008**

**THE UNIVERSITY OF SOUTH DAKOTA
Board of Regents Science Facility Renovations
Renovation of Arthur M. Pardee Laboratory**

a. Project Overview:

The University of South Dakota plans to renovate the existing Arthur M. Pardee Laboratory. Pardee Laboratory was built in 1914 and houses research and teaching labs for the Department of Chemistry including the Governor's 2010 Center for Research and Development of Light-Activated Materials and the labs for the Materials Chemistry program which was recently approved for a PhD. Pardee is also home to most of the teaching laboratories where USD students including future medical and other health profession students receive their chemistry instruction. The current condition of the labs is both a recruitment and retention issue for students and faculty. Improving the facility to contemporary laboratory building standards will improve student and faculty working conditions, increase recruitment and retention, and enable the University to fulfill its strategic mission of educating future scientists, teachers and health care professionals as well as increasing the level of research and helping to drive the South Dakota economy.

Historic preservation is a hallmark of the USD campus. The renovation will include internal work that will maintain the historical significance of the facility.

b. Current Facility Description:

Arthur M. Pardee Laboratory is an early twentieth century building built in 1914 with brick façade and limestone cornice in the Neo-Classical Architectural Style. The building has three floors and is used by the Chemistry Department for both research and classroom laboratories. Recent renovations to the building include: installation of an elevator, upgrade of the electrical service to the building and a class laboratory has been renovated to current laboratory standards. A deferred critical maintenance project to address the life-safety and major building infrastructure will start construction this spring. However, the laboratories have not had a major renovation, the systems are quite outdated and do not meet current laboratory requirements. The utility services to the individual laboratories need to be upgraded. The design elements are the main exterior of the building and the grand entry staircase. Neither element will be part of the interior renovation of the teaching and research laboratories.

c. Proposed Renovations:

The project will address critical laboratory deficiencies. Currently the laboratories do not have proper exhaust systems, since the fume hoods are not functioning properly. The air exchanges in the Chemistry laboratories do not meet current laboratory standards for that function and limit the use of the rooms. The electrical service does not meet laboratory standards. This is has become more problematic as research has expanded. The work will include renovating research lab spaces, and modernizing the existing classroom and class laboratories. The lab services rooms are also included in the renovation. This work will include combining many small

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unusable spaces into shared functioning spaces. The work will address infrastructure issues including exhaust, electrical and plumbing improvements and renovations to current laboratory standards. The project will address the remainder of the phases identified in the Master Plan documentation for Pardee Laboratories.

d. Location and Site Analysis:

The Arthur M. Pardee Laboratory is directly south of Churchill-Haines Laboratory and east of Akeley Lawrence Science Center.

e. Space Allocation and Uses of Current Facility:

The building is used for chemistry. These spaces include the both classroom and research laboratories and the required support spaces. The remaining spaces are used for support spaces and general purpose classrooms for chemistry. Based on the room's disciplines, they are highly utilized spaces.

Space Use	Count	Discipline	Level	Gross Square Feet
First Floor				
Classroom Lab	1	Chemistry	Undergraduate and Graduate	1481
Research Labs	2	Chemistry	Undergraduate and Graduate	920
Lab Services	10	Chemistry	Undergraduate and Graduate	2665
Custodial/Mechanical/Restroom	4		NA	386
Circulation			NA	2471
First Floor Subtotal				7924
Second Floor				
Classroom Lab	2	Chemistry	Undergraduate and Graduate	926
Lab Services	1	Chemistry	Undergraduate and Graduate	810
Classroom	1	Chemistry	Undergraduate and Graduate	495
Offices	3	Chemistry	Undergraduate and Graduate	625
Custodial/Mechanical/Restrooms	1		NA	202
Circulation			NA	905
Second Floor Subtotal				3962
Third Floor				

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Classroom Lab	1	Chemistry	Undergraduate and Graduate	926
Research Labs	2	Chemistry	Undergraduate and Graduate	777
Lab Services	14	Chemistry	Undergraduate and Graduate	906
Classroom	1	Chemistry	Undergraduate and Graduate	833
Offices	2	Research	Undergraduate, Graduate and Doctorate	516
Offices	1	Chemistry	Undergraduate and Graduate	130
Custodial/Mechanical/Restrooms	2		NA	56
Circulation			NA	876
Third Floor Subtotal				5019
Total Renovated Gross Square Footage				16,905
Total Building Square Footage				22,909

f. Space Allocation and Uses of Renovated Facility:

The intent of the renovation is to upgrade the utilities to the building to provide current laboratory standards. Along with the modifications to the infrastructure there will be modification of general purpose classrooms to research laboratories and some classroom laboratories will be modified and used for research laboratories. The first floor will focus on upgrades to the existing spaces the utilization of those spaces will remain the same function. The second floor will include modifications to utilization as well as a modification to spaces. The proposed changes include removal of a general purpose classroom and a decrease in office spaces; this will allow the addition of the required restroom facilities for the building and increase square footage of the classroom laboratories. The third floor will have the most significant change in usage. On the north side of the building the existing lab services space will be modified into research laboratory spaces. The southeast class laboratory is also proposed to be modified into a research laboratory. The utilization of the spaces will remain with Chemistry.

Space Use	Count	Discipline	Level	Gross Square Feet
First Floor				
Classroom Lab	1	Chemistry	Undergraduate and Graduate	1481
Research Labs	2	Chemistry	Undergraduate	920

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			and Graduate	
Lab Services	10	Chemistry	Undergraduate and Graduate	2665
Custodial/Mechanical/Restroom	4		NA	386
Circulation			NA	2471
First Floor Subtotal				7924
Second Floor				
Classroom Lab	2	Chemistry	Undergraduate and Graduate	1851
Lab Services	1	Chemistry	Undergraduate and Graduate	481
Offices	1	Chemistry	Undergraduate and Graduate	220
Custodial/Mechanical/Restrooms	2		NA	624
Circulation			NA	787
Second Floor Subtotal				3962
Third Floor				
Research Labs	5	Chemistry	Undergraduate and Graduate	1581
Lab Services	3	Chemistry	Undergraduate and Graduate	641
Classroom	1	Chemistry	Undergraduate and Graduate	833
Offices	2	Research	Undergraduate, Graduate and Doctorate	516
Offices	2	Chemistry	Undergraduate and Graduate	506
Custodial/Mechanical/Restrooms	1		NA	66
Circulation			NA	876
Third Floor Subtotal				5019
Total Renovated Gross Square Footage				16,905
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g. Initial costs estimated based on gross square footage and types of space:

Space Use	Gross Square Feet	Per Square Foot Cost	Estimated Costs
Class Labs	3332	\$275.00	\$916,265
Research Labs	2501	\$275.00	\$687,835
Lab Services	3788	\$275.00	\$1,041,632
Classrooms	833	\$150.00	\$124,945
Offices	1241	\$150.00	\$186,203
Mechanical	1076	\$200.00	\$215,183
Circulation	4134	\$150.00	\$620,041
Total	16,905		\$3,792,104

h. Additional services to be offered or benefits of the renovation:

When Pardee was originally constructed, Chemistry did not have a doctoral program. Today, Chemistry offers a Materials Chemistry PhD. With the new graduate program come additional faculty, who need office space and research labs, and graduate students, who also require some type of space within the department. Additionally, an increase in external funding has allowed chemistry faculty to hire post-doctoral research associates, all of whom must be given some type of office/research space. Completing the renovation of Pardee will provide modern research facilities to the new faculty in support of the expanded research activities and the new doctoral program. Additional research provides opportunities for students and strengthens the state economy.

i. Analysis of student body, function or constituents to be served:

The renovations to Pardee will benefit the chemistry faculty, their graduate students, post-doctoral researchers and undergraduate students. In addition to the research facilities, Pardee also houses several teaching labs. Most pre-med students take their year of organic chemistry in Pardee, and these renovations will affect these students also.

j. Impact to Maintenance & Repair:

Arthur M. Pardee Laboratory is classified as an academic building and as such is eligible for funding from USD's annual HEFF allocation. This renovation project addresses mechanical and electrical infrastructure system upgrades. In addition to updating the building to current laboratory standards this project will address existing deferred maintenance items.

k. Impact to operational costs:

Arthur M. Pardee Laboratory building is an existing building. Improved infrastructure should result in lower operational costs although changing some space to research space may mitigate some of the savings.

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1. Proposed funding sources for costs of:

1. Construction

The construction project is part of the Board's request for funding for science lab facilities.

2. Ongoing operations

Ongoing operations will be funded by existing budgets in Facilities Management.

3. Maintenance and repair

Future maintenance and repair will be funded with the campus's HEFF M&R allocation. Current M&R allocations are insufficient so the Board has also requested additional funding to bring M&R allocations closer to 2% of building replacement values.