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**ACTION UNDER PRESIDENT'S AUTHORITY - AMENDMENT OF THE BUDGET
FOR CAPITAL IMPROVEMENT AND THE CAPITAL IMPROVEMENT PROGRAM
AND APPROVAL OF EXTERNAL FINANCING FOR 2007-08 DEFERRED
MAINTENANCE AND FACILITIES RENEWAL PROGRAM, DAVIS CAMPUS**

It is recommended that:

Pursuant to Standing Order 100.4(q)

- (1) The President amend the 2007-08 Budget for Capital Improvements and the Capital Improvement Program to include the following project:

Davis: 2007-08 Deferred Maintenance and Facilities Renewal Program --
preliminary plans, working drawings, and construction - \$4,414,000 to be
funded from external financing.

Pursuant to Standing Order 100.4(nn)

- (2) The President be authorized to obtain financing not to exceed \$4,414,000 to award construction contracts, subject to the following conditions:
 - a. Interest only, based on the amount drawn down, shall be paid on the outstanding balance during the construction period;
 - b. Repayment of financing shall be from the Davis campus share of the Federal Indirect cost recovery deposited to Fund 19933, which shall be in amounts sufficient to pay debt service and to meet the related financing requirements; and
 - c. The general credit of The Regents shall not be pledged.
- (3) The Officers of The Regents provide certification that interest paid by The Regents is excluded from gross income for purposes of federal income taxation under existing law.

- (4) The Officers of The Regents be authorized to execute all documents in connection with the above.

DESCRIPTION

This item requests authorization of \$4,414,000 in external financing for the 2007-08 Deferred Maintenance and Facilities Renewal Program for the Davis campus. These funds are needed to repair heating, ventilation, and air conditioning systems, plumbing systems, and roofing and exterior systems in 20 campus buildings that house programs eligible for state funding. All projects address highest priority deferred maintenance needs. Scope descriptions and a funding summary for the proposed projects are included in Attachment 2.

The total estimated cost of these projects amounts to \$8,734,000, although only \$4,414,000 of external financing is requested. The most urgent projects would be initiated first. As individual projects proceed, the campus would assess any changes in facility conditions that might alter the relative priority of remaining projects. Projects would continue to be implemented until all approval funds are consumed.

Background

The Davis campus is faced with deteriorating building systems in numerous facilities. Heating, ventilation, and air conditioning (HVAC) systems include heating coils and chilling coils that exchange temperature with the campus steam and chilled water utility loops, electronic control devices that regulate building air flow and temperature, condensing units, and cooling towers. Plumbing systems provide water supply and sewage collection to bathrooms and laboratories. Roofing and exterior systems prevent water leakage and maintain building integrity.

HVAC, plumbing, and roofing and exterior systems require periodic capital renewal in addition to regular maintenance. With capital budgets constrained, the campus has deferred renewal of these systems in several older buildings. In many cases, systems are now beyond their useful life and are in critical need of repair or replacement to return a building to normal operation and to prevent accelerating deterioration. Moreover, HVAC systems become increasingly inefficient with age, adding to campus energy use and costs.

Project Description

The projects included in this program address the highest priority renewal needs for HVAC, plumbing, and roofing systems in 20 buildings that house programs eligible for state funding. The majority of these buildings are over 25 years old: Bainer Hall, Briggs Hall, Central Plant, Chemistry, Chemistry Annex, Cole B, Everson Hall, Fire and Police, Hart Hall, Hickey Gym, Hunt Hall, Hutchison Hall, King Hall, Mann Lab, Meyer Hall, Mrak Hall, Primate Center Lab, Roessler Hall, University Club, Vectorborne Disease Center, and Voorhies Hall.

The projects are expected to extend the life of plumbing and roofing systems by 25 to 30 years, HVAC system components by 15 to 25 years, and roofing and exterior systems by approximately 25 years.

Program Background

In February 1998, The Regents approved a new multi-year funding approach to address the need for regular, systematic renewal of existing facilities and to reduce the backlog of deferred maintenance projects. This approach used external financing, with repayment of bonds to be made from a portion of the increase over the prior year's UC General Funds, specifically nonresident tuition funds. The amount of funding to be provided for debt service on an annual basis was limited to no more than 5 percent of the annual increase in UC and State General Funds. This new approach provided a significant level of funding for the systemwide program for the next several years, emphasizing a systems renewal rather than a repair approach in addressing the deferred maintenance backlog.

In the initial program year, 1998-99, this bond-financed program provided \$64.8 million for the systemwide deferred maintenance and capital renewal program. Additional debt was authorized by The Regents for the program in June 1999 (\$64 million), in May 2000 (\$66 million), and in May 2001 (\$45 million), resulting in an infusion of almost \$240 million for capital renewal over a four-year period. A total of approximately \$22 million per year in UC General Funds will be used to pay debt service for all four programs. Only high priority projects with long-term benefits (minimum useful life of 15 years) were eligible to be funded through this mechanism.

In 2002-03, the systemwide debt financing program for capital renewal and deferred maintenance was suspended because University funds used to support debt financing had to be redirected to offset state funding cuts. However, in order to allow individual campuses to continue to address their capital renewal and deferred maintenance needs, the University initiated a new funding program to authorize campuses to finance long-term debt for this program by pledging a portion of their UC General Fund income to fund high priority projects. Several campuses participated in this program during the five-year period 2002-03 to 2006-07, generating \$131 million in additional funding for deferred maintenance and capital renewal needs.

The University is committed to continuing this program. This program has allowed the Davis campus to address a significant number of critical deferred maintenance and capital renewal needs. By making a long-term commitment to this program, the campus has been able to leverage available funding by planning for and prioritizing projects.

Sustainability

These deferred maintenance projects will comply with the UC Policy on Sustainable Practices. To the fullest extent possible, projects will include sustainable measures in line with the Davis Campus Green Building Baseline consistent with budgetary constraints and programmatic requirements.

Environmental Classification

In accordance with the California Environmental Quality Act and University Guidelines for Implementation of the California Environmental Quality Act, as amended, the proposed projects are classified Categorical Exempt, Class 1 (Existing Facilities).

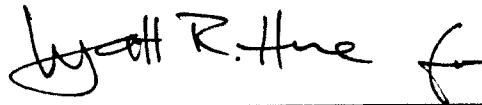
Financial Feasibility

The total cost of the Davis campus 2007-08 Deferred Maintenance and Facilities Renewal Program would be \$4,414,000, to be supported with external financing.

The Davis campus would use a portion of its share of the Federal Indirect Cost Recovery deposited to the campus' University General Funds as Fund 19933 as the pledged source of repayment for external financing. The projected annual debt service for the proposed program would be approximately \$440,000, calculated at an interest rate of 5.50% for 15 years. The total annual debt service, including previously approved projects, would be approximately \$2,690,000. Debt service coverage is 3.7 times.

Additional financial feasibility information is shown in Attachment 1.

Approved by:



Robert C. Dynes
President of the University

10/16/07
Date

Attachments

SUMMARY FINANCIAL FEASIBILITY ANALYSIS

Project Title: 2007-08 Deferred Maintenance and Facilities Renewal Program

Total Estimated Program Cost: \$4,414,000

Proposed Source of Funding:

External financing \$4,414,000

Proposed Financing Terms:

Interest rate: 5.50 %

Duration: 15 years

Pledged Source of Repayment (FY 2008-09):

Federal Indirect Cost Recovery
Campus' allocation of Fund 19933 \$10,047,860

Existing Annual Debt Service \$2,250,000

Projected Annual Debt Service (proposed project) \$440,000

Total \$2,690,000

Debt Service Coverage 3.7 X

ATTACHMENT 2

HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEMS							
Building	CAAN	Age	Size (mgsf)	Program Use	Useful Life	DM Project Description	Estimated Project Cost
Briggs Hall	4273	1971	199,000	Biological Sciences	25-30 years	Existing control system has become obsolete and is no longer supported by the manufacturer. Project will replace primary air handler control.	\$42,000
Chemistry	3961	1966	128,000	Chemistry	25-30 years	The building was connected to the campus chilled water loop recently. The existing cooling coils were designed for the lower temperature water that was formerly supplied via the decommissioned water chiller. These existing coils do not provide adequate cooling. Project will replace chilled water coils.	\$151,000
Chemistry	3961	1966	128,000	Chemistry	25-30 years	The temperature control valves at the reheat coils and the associated thermostats are deteriorated with age and worn from use. Project will replace re-heat coil control valves.	\$114,000
Chemistry	3961	1966	128,000	Chemistry	25-30 years	The existing HVAC control systems are obsolete and technically outdated. Currently there is no means of monitoring or operating the building through an EMS system. The existing B-MUX system has failed and is no longer supported by any vendors, resulting in equipment failures, which impact the users on an ongoing basis. Project will replace the controls and return the system to normal operation.	\$360,000
Hart Hall	3207	1928	72,000	Cultural & Ethnic Studies	25-30 years	Existing control system has become obsolete and is no longer supported by the manufacturer. Project will replace primary air handler control.	\$78,000
Hickey Gym	3331	1938	85,000	Physical Education	25-30 years	Tube bundles in both heat exchangers are fouled with mineral build-up from Davis water, thus more energy is required to produce the necessary amount of hot water for the facility. New heat exchangers will reduce the burden on the Central Heating and Cooling Plant. Project will replace heat exchangers.	\$98,000
Hunt Hall	3421	1949	64,000	Landscape Architecture	25-30 years	The existing HVAC control systems are obsolete and technically outdated. Currently there is no means of monitoring or operating the building through an EMS system. The existing B-MUX system has failed and is no longer supported by any vendors, resulting in equipment failures, which impact the users on an ongoing basis. Project will replace the controls and return the system to normal operation.	\$400,000
King Hall	4051	1968	96,000	Law School	25-30 years	The building was connected to the campus chilled water loop recently. The existing cooling coils were designed for the lower temperature water that was formerly supplied via the decommissioned water chiller. These existing coils do not provide adequate cooling. Project will replace chilled water coils.	\$86,000
Mann Lab	3841	1965	17,000	Agricultural Sciences	25-30 years	The condensing units, evaporator coils, and controls serving the growth chambers have deteriorated and require frequent repairs. Project will replace all 16 condensing units and supporting equipment.	\$500,000
Meyer Hall	4556	1982	217,000	Agricultural Sciences	25-30 years	Existing control system has become obsolete and is no longer supported by the manufacturer. Project will replace existing control.	\$98,000
Mrak Hall	3842	1966	94,000	Campus Administration	25-30 years	The building was connected to the campus chilled water loop recently. The existing cooling coils were designed for the lower temperature water that was formerly supplied via the sinca decommissioned water chiller. These existing coils are inefficient and obsolete and have caused interruptions of services due to improper cooling. New coils will increase energy efficiency. Project will replace chilled water coils.	\$103,000
Mrak Hall	3842	1966	94,000	Campus Administration	25-30 years	Existing control system has become obsolete and is no longer supported by the manufacturer. A control system uses a variety of sensors to open and close valves, starts and stops equipment, and maintains indoor air quality and comfort. Zone control separates the building into small sections which provides better user comfort and system efficiency. Project will replace control systems with zone control.	\$240,000
Primate Center Lab	3844	1965	24,000	Primate Center	25-30 years	The cooling tower at the Primate CHCP that serves the steam absorption chiller has passed its life expectancy by 20-plus years. The cooling tower is deteriorating and has a high potential for failure. If the tower fails, the facility will not be cooled, jeopardizing animal health and ongoing research programs. Project will replace cooling tower.	\$474,000

PLUMBING SYSTEMS							
Hickey Gym	3331	1938	85,000	Physical Education	15-25 years	The shower towers are continually leaking and corroded. Each shower tower is a column with multiple heads within a large shower room. Project will replace Men's and Women's shower towers.	\$126,000
Hutchison Hall	3788	1963	120,000	Agricultural Sciences	15-25 years	Laboratory waste system on all four floors is antiquated and leaking. Existing piping shows signs of extreme corrosion, with a high probability of lines rupturing and spilling waste on occupants. During the drain cleaning process, the only method that can be used is snaking the lines which significantly increases the chance of pipes breaking during the cleaning process. Each floor contains a separate collection and disposal system. Project will replace all piping in each system, at a cost of approximately \$185,000 on each floor.	\$744,000
Hutchison Hall	3788	1963	120,000	Agricultural Sciences	15-25 years	The existing gas, air, vacuum, and water fixtures are corroded and malfunctioning. Many of the valves no longer work and have been taken out of operation. Corrosion has caused many valves not to seat properly which has created gas, air, vacuum and water leak problems that are both safety hazards and cause other maintenance problems related to water damage or excessive run time of compressors and vacuum systems. Teaching and research that occurs in these labs have been impacted by these service failures. Project will replace all service and water outlets, approximately 500 fixtures.	\$172,000
ROOFING AND EXTERIOR SYSTEMS							
Balmer Hall	4004	1966	173,000	Engineering	25 years	Existing roof system is deteriorated. Project will replace the roof with a PVC single-ply membrane.	\$432,000
Briggs Hall	4273	1971	199,000	Biological Sciences	25 years	The existing roof system is tar and gravel with numerous areas of standing water. The roof has exceeded its useful life. A majority of the roof has been patched to prevent leaks. The patching of the roof is not cost effective to maintain. Leaks in labs within the facility are causing damage to the interior finishes, equipment and contents. This also causes interruptions to the labs and downtime. The majority of the mechanical equipment and piping that serve this building is located on the roof. This piping and equipment will have to be temporarily relocated to perform the roofing replacement, raising costs beyond typical roofing projects. Project will replace the roof and include proper sloping towards drains.	\$1,800,000
Central Plant	4396	1971	17,625	Utility Services	25 years	Existing roof system is deteriorated. Project will replace roof.	\$156,000
Cole B	4220	1968	14,170	Animal Care	25 years	Existing roof system is deteriorated. Project will replace roof using PVC single-ply membrane.	\$120,000
Everson Hall	3350	1952	48,000	Agricultural Sciences	25 years	Existing roof system is deteriorated. Project will replace roof using PVC single-ply membrane. Cost estimates are a combination of square foot and historical costs for similar work.	\$406,000
Fire & Police	4447	1977	29,000	Fire and Police Depts	25 years	The exterior block walls are cracked with water leaking into the building in some areas. The exterior block walls are not painted and should be sealed to prevent moisture intrusion. Project will reseal exterior block wall.	\$203,000
Hickey Gym	3331	1938	85,000	Physical Education	25 years	Existing roof system is deteriorated. Project will replace roof using PVC single-ply membrane.	\$240,000
Meyer Hall	4556	1982	217,000	Agricultural Sciences	25 years	Numerous concrete roof tiles are missing or damaged. Roof is leaking throughout the building, risking possible water damage to the interior walls and ceilings. A small amount of mechanical equipment on the roof will be temporarily relocated to perform the roof replacement. Project will replace roof.	\$719,000
Roessler Hall	4265	1971	26,000	Physics	25 years	Exterior painted wall surface is worn and is allowing moisture to enter building. Water is penetrating the building causing damage to the structure and the interior finishes. The water penetration is jeopardizing the research programs and laboratory equipment. Project will reseal the exterior.	\$78,000
TOTAL, ALL PROJECTS							\$8,734,000