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February 9, 2006

ACTION UNDER PRESIDENT'S AUTHORITY--AMENDMENT OF THE BUDGET FOR CAPITAL IMPROVEMENTS AND THE CAPITAL IMPROVEMENT PROGRAM AND APPROVAL OF EXTERNAL FINANCING FOR SIO SEAWATER AND STORMWATER MANAGEMENT, SAN DIEGO CAMPUS

It is recommended that:

Pursuant to Standing Order 100.4(q)

(1) The President amend the 2005-06 Budget for Capital Improvements and the Capital Improvement Program to include the following project:

San Diego: SIO Seawater and Stormwater Management – preliminary plans, working drawings, and construction – $8,564,000, to be funded from external financing

Pursuant to Standing Order 100.4(nn)

(2) The President be authorized to obtain financing not to exceed $8,564,000 prior to awarding a construction contract, 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 San Diego campus share of Federal Indirect Cost Recovery deposited to 19933, which shall be in amounts sufficient to pay the 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 be authorized to 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 necessary in connection with the above.

A Key to the abbreviations and the project description are attached.

KEY
Capital Improvement Program Abbreviations

S	Studies
P	Preliminary Plans
W	Working Drawings
C	Construction
E	Equipment
-	State Funds (no abbreviation)
F	Federal Funds
G	Gifts
HR	Hospital Reserve Funds
I	California Institutes for Science and Innovation
LB	Bank Loans or Bonds (External Financing includes Garamendi, Bonds, Stand-By, Interim and Bank Loans)
LR	Regents' Loans (Internal Loans)
N	Reserves other than University Registration Fee (Housing and Parking Reserves)
R	University Registration Fee Reserves
U	Regents' Appropriations (President's Funds, Educational Fund)
X	Campus Funds
CCCI	California Construction Cost Index
EPI	Equipment Price Index

Budget for Capital Improvements and
Capital Improvement Program
Scheduled for
Regents' Allocation, Loans, Income Reserves, University Registration Fee Reserves,
Gift Funds, and Miscellaneous Funds

Campus and Project Title (Total Cost)	Prefunded		Proposed 2005-06	
San Diego				
SIO Seawater and Stormwater Management	---	P	$1,489,000	LB
		W	$407,000	LB
		C	$6,668,000	LB
($8,564,000)				

DESCRIPTION

This item requests approval of the San Diego campus Scripps Institution of Oceanography (SIO) Seawater and Stormwater Management project in the amount of $8,564,000, to be funded from external financing. The project would replace malfunctioning and obsolete seawater distribution, filtration, and discharge systems; provide code upgrades to utility systems and facilities at SIO; and enable the campus to comply with seawater discharge requirements as mandated by the State Water Resources Control Board. The project would also correct safety hazards and preclude potential contamination of marine life and loss of vital research specimens in the SIO aquaria by replacing existing filtration systems with new and reconfigured treatment piping systems in the various aquaria at SIO.

SIO was founded in 1903 as an independent biological research laboratory and became an integral part of the University of California in 1912. SIO has been discharging seawater return flows into the ocean since 1910. It currently utilizes approximately 700,000 gallons per day of seawater drawn from an intake on the Scripps Pier in four experimental aquariums (Hubbs Hall, Ring Tank, Experimental Aquarium, and Hydraulics Laboratory) and the public-oriented Birch Aquarium-Museum. Stormwater and seawater drain flows are currently co-mingled.

Conformance with the Federal Clean Water Act on the San Diego campus occurs with oversight provided through the State Water Resources Control Board, which sets policy

and guides implementation actions that are determined by the San Diego Regional Water Quality Control Board (RWQCB). SIO operations were first subject to waste discharge requirements in 1969, with subsequent permits re-issued by RWQCB in 1979, 1984, 1994, and 1999 with certain treatment conditions.

Also, in 1974, the State Board designated 31 "Areas of Special Biological Significance" (ASBS) in the ocean waters off the California coast. SIO's seawater returns discharge into the San Diego Marine Life Refuge, an ASBS designation. The California Ocean Plan, developed under the framework of the Clean Water Act, prohibits wastewater discharges into an ASBS. In 2002, the campus was notified that the SIO discharge was not in conformance with the California Ocean Plan. The campus sought an Exception to the Ocean Plan and the RWQCB re-issued the SIO National Pollution Discharge Elimination System (NPDES) Industrial Discharge Permit in 2004. However, the Exception was granted with extensive conditions under which the discharge would be allowed, including requirements for management and monitoring and the condition that the campus must separate the storm drainage system from the seawater system by January 2007 in order to eliminate all dry weather flows being discharged on the beach.

Apart from Birch Aquarium built in 1992, the other four experimental aquaria at SIO (Hubbs Hall, Hydraulics Lab, Ring Tank, and Experimental Aquarium) are 30 to 47 years old. In addition to the need to comply with the January 2007 deadline for separating the storm drainage and seawater systems, the SIO facilities that use seawater have significant deferred maintenance problems and are in need of equipment renewal. Equipment and utility system improvements are needed for life support chillers, heat exchangers, piping, pumps, filtration systems, electrical equipment, and other components of the water treatment systems. Much of this equipment is outdated, it is difficult to obtain replacement components, and the operation of the sensitive life support systems for marine life is compromised. Renewal of this equipment will result in greater reliability, energy efficiency, and a safer, cleaner environment for the marine life. Replacement of equipment will not only help the campus to comply with environmental regulations, but will also extend the useful life of the SIO facilities.

The seawater distribution and treatment systems in Birch Aquarium are costly to maintain, do not comply with the NPDES Industrial Discharge Permit (see below), and lack electronic controls for energy-efficient and effective operation. Current electrical capacity and the emergency power generator are insufficient to meet the needs of the facility. In other parts of the campus, storm water drains and seawater distribution piping systems, external to the buildings, have been in place for 40 to 60 years. Large sections have deteriorated, showing signs of settlement and cracking, resulting in leaking joints.

The proposed project consists of the following four components.

- Replacement of external piping (40-60 years old) for the storm drain and seawater system with a pipeline for seawater discharge from all the aquaria to discharge outlets on the beach, thereby separating the storm and seawater drains. The SIO seawater and storm drain pipelines have been in place for over 40 years. Some

components are in good condition but large sections have deteriorated showing signs of settlement and cracking and resulting in leaking joints. In order to be compliant with the NPDES permit requirements, the separation of the currently comingled seawater and storm drain flows is necessary. To accomplish the separation of the flows, it is necessary to reconfigure current pipe systems and retrofit beach discharge areas. This pipeline work needs to be accomplished before the aquaria are retrofitted.

- Reconfiguration and replacement of corroded piping, valves and pumps within all of the experimental aquaria and the Birch Aquarium. This would include replacing piping and valves to isolate the existing seawater drain system from the storm and floor drain system. In addition, the improvements would eliminate runoff from back-area washdowns from going into the ocean.

- Renovation of Birch Aquarium to include automated controls, expansion of the electrical substation, and replacement the existing outdoor service shed with a larger shed to accommodate the ozonation system and backwash recovery filtration system. By expanding the electrical substation and adding automated controls to the aquarium and treatment systems, the backup generator will automatically start when no power is detected, thereby protecting the marine life. This will greatly improve the operation of the aquarium, resulting in better water quality for the marine life and reducing maintenance staff repair time. Computer-based automation of routine life support systems will save labor costs, increase energy efficiency, and also improve the water quality parameters. Together with improving the exhibit tanks' water quality, automated controls will optimize the treatments used for discharge water. All SIO aquaria will require updated automated controls.

- Replacement of existing seawater treatment systems in the experimental aquaria with functional treatment systems. The pipelines within the older buildings (Hubbs Hall, Hydraulics Lab, Ring Tank, and Experimental Aquarium) are beyond their life expectancy and need to be replaced. Pipelines are rusted and leaking, insulation is deteriorating and falling off, and some valves do not close. Some research had to be suspended since funds have not been available to repair the broken equipment.

Construction of the project would be undertaken in phases, beginning in May 2006, and estimated completion in December 2008.

Background

In February 1998, The Regents approved a new multi-year funding approach 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% 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. This program had a significant impact on reducing the backlog of the highest priority deferred maintenance projects as well as funding many facilities renewal projects.

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 three-year period 2002-03 to 2004-05, generating $47 million in bond funding for this purpose.

The University is committed to continuing the deferred maintenance and capital renewal program. This proposal would allow the San Diego campus to direct a portion of their share of Federal indirect cost recovery deposited to Fund 19933 (known internally as part of the University General Funds) to provide long-term financing for its deferred maintenance and facilities renewal program.

CEQA Classification

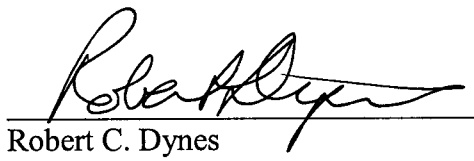
In accordance with University of California guidelines for the implementation of the California Environmental Quality Act, an Initial Study/Mitigated Negative Declaration will be prepared for consideration by the University.

Financial Feasibility

The total project cost is estimated at $8,564,000, including $864,000 of interest during construction, to be funded with external financing. A summary of the financial feasibility analysis is presented in Attachment 1. The campus would use a portion of its share of the Federal Indirect Cost recovery deposited to campus University General Funds as the pledged source of repayment for the external financing. The projected annual debt service

is estimated to be $867,000, calculated at an interest rate of 5.75% for 15 years. The debt service coverage is 14.6 times.

Approved by:



2/28/06

Robert C. Dynes
President of the University

Date

Attachment

ATTACHMENT 1

SUMMARY FINANCIAL FEASIBILITY ANALYSIS

Project Title: SIO Seawater and Stormwater Management Project, San Diego Campus

Total Estimated Project Cost:	$8,564,000
Proposed Source of Funding:	
External Financing	$8,564,000
Proposed Financing Terms:	
Interest Rate: 5.75% Duration: 15 years	
Pledged Source of Repayment:	
Federal Indirect Cost Recovery Campus' allocation of Fund 19933 (actual 2004-05)	$12,629,000
Projected annual debt service (2010-11) [1]	$867,000
Pledge Ratio	6.9%
Debt Service Coverage	14.6x

(1) First full year of principal and interest payments for the project.