

# 2004-2005

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## Budget for Capital Improvements



UNIVERSITY OF CALIFORNIA  
Office of the President  
November 2003



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## OVERVIEW

### UNIVERSITY OF CALIFORNIA CAPITAL IMPROVEMENT PROGRAM

The Master Plan for Higher Education of the State of California defines specific roles in public higher education for each of the three segments. The University of California is designated as California's graduate and research institution with related responsibilities for public service, and is to accept the top 12.5 percent of graduating California high school seniors who wish to attend. The character of education provided by the University reflects this mission for both undergraduate and graduate students, preparing them to take leadership positions in industry and the community; the University's research is not only an integral part of this educational process but also is vital in supporting the rapid advance of California's economy. Successfully meeting these responsibilities requires that the University maintain its programs at the forefront of knowledge. Periods of rapid enrollment growth present a difficult challenge in hiring new faculty who are at the top of their fields, effectively supporting their efforts with appropriate facilities and related academic and student support services. The rapid growth experienced by the University during the 1980s demonstrated the serious strains created in heavily impacted academic programs; the level of growth being experienced now is even greater.

At this time, the State fiscal condition has raised issues concerning the level of funding that will be available for continued increases in enrollment. However, student demand has not abated and the University remains committed to the enrollment mandate of the Master Plan for Higher Education. It is hoped that the current State financial problems would be resolved in the relatively near future, allowing the State to support continued enrollment growth commensurate with student demand. The period required for design and construction of major new academic buildings is between four and five years, and many projects funded for the start of design in 2004-05 will not be ready for occupancy until 2008-09 or later. To avoid creating new obstacles to enrollment growth, it is important that projects continue to be approved (particularly as they are funded through the general obligation bond program), addressing both current space shortfalls and further growth in student demand.

Student enrollment at the University of California began to increase strongly in the late 1990s, the start of a period of growth that the California Post-secondary Education Commission (CPEC) refers to as “Tidal Wave II”. In 1998-99, the University’s campuses enrolled 148,856 full-time equivalent (FTE) students. UC’s 1999 enrollment plan, based on DOF demographic and student projections data, anticipated a general campus enrollment of 173,500 FTE in 2003-04 and 210,000 FTE in 2010-11 (a cumulative increase from 1998-99 of over 40 percent). This was adjusted upward to account for summer enrollment that existed in 1999 for which State support is being phased in, resulting in a revised forecast for 2010-11 of 216,500 FTE.

The University has experienced far more rapid enrollment growth than the 1999 plan envisioned, averaging closer to 8,000 FTE per year in recent years rather than the 5,000 FTE growth that had been projected. In 2003-04, estimated enrollment is projected to be about 12,000 FTE over the level envisioned in the 1999 plan.

As has been true of past enrollment growth cycles, the expansion of facilities has lagged significantly the rapid increase in student population. The University Space Analysis prepared in 2002 reports that the five existing University growth campuses have approximately 20 percent less space than allowed by CPEC space guidelines for this level of enrollment. The analysis already discounts need by the full measure assumed in the University’s commitment to bring summer academic term enrollments to a level equivalent to 40 percent of the average fall/winter/spring term, although the State has not yet funded the existing summer enrollments at four of those campuses. Facilities are crowded, the recruitment of essential new faculty is constrained, and important actions to expand and innovate curricula are impacted.

The total capital need for State-supportable functions—including academic programs, academic support, student services and administration, and campus operational support—is estimated at more than \$650 million per year over the next five years. Of the total annual need, \$350 million to \$400 million is related to development of new facilities and expansion of campus infrastructure to accommodate enrollment growth. These figures include the cost of completing development of the first phase of the new Merced campus (5,000 FTE students by 2010-11), supplemented by University funding for student housing and support functions. Approximately \$250 million is related to that renewal and modernization of existing facilities included in the capital program, and correction of seismic hazards. However, the figures do not include OMP funding on the order of \$200 million per year required to

adequately support those aspects of facility renewal addressed through the support budget, and to stem the continued build-up of deferred maintenance projects. CPEC has suggested that a bond measure of \$1 billion per year is needed through this decade to support the capital requirements of the State's three segments of public higher education, divided equally between the three segments.

Legislation passed in the 2001-02 fiscal year authorized submittal of two new general obligation bond measures to the voters, one in 2002 and the second in 2004. The first was approved by the voters in November 2002 and provided \$1.65 billion for California's public institutions of higher education to fund capital appropriations in the 2002-03 and 2003-04 fiscal years. The University of California received \$90 million from this bond measure in 2002-03, with additional funding provided from lease revenue bond sources, and approximately \$307.5 million in 2003-04. The second bond measure will be on the March 2004 ballot and would provide the University with \$345 million per year for an additional two years if approved by the voters.

It is critical that the public approve this new bond measure if the University is to address current and projected space deficiencies caused by continuing growth in student demand, make essential seismic life safety corrections, and renew aging and obsolete facilities. Without those funds, campuses will not have the space to support the hiring of new faculty and expansion of programs that are necessary to provide a quality education to the new students of the State.

Even with this anticipated funding, there is still a funding gap of over \$200 million per year. The University has committed itself to pursue gift and other potential fund sources to supplement State resources. Possibly as much as half of this shortfall can be met with non-State resources, but not all. The outcome of this shortfall is similar to what was experienced during the growth period of the 1980s—in the short term, the availability of core academic facilities did not keep up with the pace of enrollment growth. Many of the new facilities funded by the State to accommodate the enrollment growth in the mid-80s did not come on-line until after enrollment growth had leveled off during the early 1990s.

The degree of impact and lag may be greater in the current case because the University's rate of enrollment growth is larger. As noted above, the current problem is particularly acute at the University's heavily impacted growth campuses—Davis, Irvine, Riverside, San Diego, and Santa Cruz—which are currently operating at a significant space deficiency. It is expected that the

State will help the University minimize a shortfall of space, and will provide continued funding after 2010-11 to allow correction of the remaining deficiencies. If there is confidence that the necessary State funding will be provided, individual campuses can deal with reasonable levels of short-term deficiencies. If adequate funding is not provided, the University's ability to support increased enrollment and maintain program quality will be seriously harmed. The financial challenge faced by the State and University at this time is critical.

### **Capacity for Enrollment Growth**

The total enrollment capacity of the existing nine campuses defined by their Long Range Development Plans (LRDPs) in 1998-99, plus UC Merced, was approximately 24,000 FTE less than the enrollment demand that was forecast for 2010-11 in the 1999 enrollment plan, and the short-fall in University capacity is significantly more critical with the current higher enrollment growth.

All campuses have been actively pursuing programmatic and physical options for accommodating the increase in students. At several campuses, this is dependent upon the lengthy process of amending their present LRDPs, addressing applicable environmental concerns and engaging in the necessary public review. Establishment of new off-campus centers is under active consideration by Santa Cruz and other campuses, as is the expansion of off-campus study programs in general.

Development of the new campus at Merced is proceeding. Much of the site work is being completed, and three major academic buildings and other facilities for student housing and campus support are under construction. The Merced administration and key faculty are at work in off-campus facilities at the former Castle Air Force Base, developing the academic programs and courses while recruitment proceeds for the remaining faculty necessary to open the campus in the Fall of 2005. UC Merced has an active concurrent enrollment program with nearby community colleges, and students from these programs are already working with UC faculty in anticipation of transferring to UC Merced in their junior year.

The objective of making more efficient use of existing campus facilities, particularly during the summer, is of particular importance. The University has agreed with the Governor and Legislature to pursue the expansion of State-supported instructional programs during the summer with the target of a summer and qualifying off-campus enrollment equivalent to about 40



percent of the average fall/winter/spring quarter academic workload. This presents a serious challenge, not simply in terms of normal student behavior during summer work and vacation, but more importantly for efficient scheduling of courses, cost-effective class sizes, and appropriate staffing to provide the quality essential to a University of California education. The University's summer programs in the past were self-funded, but the state has agreed to provide additional funds to place those existing enrollments on the same financial basis as the regular fall/winter/spring terms. At this time, funds have been provided for conversion to full State funding of only the Berkeley, Davis, Los Angeles, and Santa Barbara campus summer terms. The University has requested funding for existing summer enrollments at the remaining four campuses as soon as possible.

Maintenance of the quality of University of California academic programs and the education received by its students is critical if the University is to effectively serve the State in its designated mission of graduate education, research, and public service. Appropriate facilities are an essential part of this effort. This is most clearly seen for science and engineering programs which are heavily targeted by students in this surge of enrollment growth. Beginning in 1998-99, the University initiated an eight-year plan to expand enrollment in engineering and computer and information sciences by 50 percent, an increase of about 8,000 students by 2005-06. This plan has been so successful that the University met that goal in 2001-02, four years ahead of schedule. Nevertheless, industry demand for these students continues to expand and the University is continuing to increase enrollments in these economically important disciplines. Those types of program are of particular concern because of their dependence on highly sophisticated laboratories and technologies to support "cutting-edge" teaching and research.

Much of the student learning process at institutions of the level of the University of California, for undergraduates as well as graduates, occurs in participatory research and related settings rather than the more traditional didactic classes. The faculty members who are most effective with their students—the first-rank faculty essential to producing the graduates and breakthroughs that drive the California economy—will not come to the University of California unless the facilities are available to allow them to be successful in their teaching and research efforts. Such facilities include state-of-the-art laboratories for teaching and research; modern computation, information, and communication resources and technologies; and a satisfactory campus utility infrastructure necessary to support these facilities.

However, the campus must have a balanced array of many categories of facilities and services to function effectively and meet its education, research, and public service goals. A shortfall in one category impacts the functional success of the campus as a whole. These facilities include not only core academic buildings but also libraries and instructional/research support facilities, student services, housing and auxiliary enterprises, health science centers, utility plants and infrastructure, and off-campus centers for educational outreach, research, and public service.

The ability to expand this system of people and facilities in a timely way is dependent upon the availability of funds, a serious challenge. However, this tidal wave of students is moving through California's high schools and has already impacted the University, and will continue to increase into the next decade. The University is committed to meeting the needs of those students.

### **Other Capital Needs**

Unfortunately, the need to expand facilities to support enrollment growth is only one of several categories of urgent issues that must be addressed and balanced in the capital program.

The condition of the University's existing physical plant is in itself a serious problem, resulting from the wear and decline associated with the age and intensive use. The importance of facility renewal is obvious at a campus the age of Berkeley or Los Angeles, but even the "newest" of the existing campuses are now nearly four decades old and are experiencing many of the same problems. The University's backlog of deferred maintenance grew dramatically during the periods of budget reductions experienced in each of the past three decades. Deficiencies in existing facilities remain a major constraint to academic program quality and innovation. Recent State actions to increase permanent maintenance funding have faltered because of current fiscal conditions, and the University-financed bonds for deferred maintenance address only an increment of the problem. An adequate level of continuing support through the deferred maintenance program and capital renewal is necessary to preserve the value of the University's physical assets.

A third category of need is that of change and obsolescence. As science, industry and commerce constantly evolve in response to new knowledge and opportunities, so must the academic programs that are responsible for preparing graduates entering those fields and for conducting the research that advances their knowledge and creates economic opportunities. Instruction and research objectives evolve and change direction, as do the

methods and equipment used. To prepare students properly, academic programs must themselves be at the frontiers of knowledge, developing and using innovative processes and technologies that support discovery, expand knowledge, and give competitive advantage to California. Unless academic facilities are renovated and updated to meet continually changing program needs, they become constraints to the capability of the programs and ultimately limit the abilities of the graduates entering the California economy.

This continued evolution is particularly strong in science and engineering fields. In many cases, the boundaries between science and engineering are dissolving, and similar changes are occurring in other academic disciplines as well. This is demonstrated by the extraordinary expansion of “bioengineering” where research and education in a single laboratory (for example, development of diagnostic or medicine delivery devices using nanoscale technologies) may involve biology, chemistry, materials science, structures, fluid dynamics, and other once-separate fields of expertise. This convergence of previously diverse fields is also apparent in the similarity of laboratory technologies now used across the disciplines, often involving sophisticated instrumentation and analysis at a cellular or molecular level, demanding equipment and controlled environments once common only in high-level physics and health science research. Many laboratories once satisfactory for entomology, botany, agriculture, or engineering are now completely obsolete for work at the forefront of their disciplines.

This is exacerbated by the fact that many of the University’s older buildings were designed to meet building, fire, life safety, and accessibility codes written 30, 50, or more years ago. Not only have regulatory and public expectations of appropriate design and essential safety changed, but as noted above, the activities housed in the buildings (particularly science and engineering laboratory functions) also have become much more complex and demanding. The dramatic changes in laboratory methodologies and technologies, and particularly the great increase in chemical usage, present safety concerns significantly greater than normal in the past.

The University’s capital program also is seriously impacted by issues of life safety, particularly the critical need to ensure that students, faculty, and staff are safe in an earthquake. A series of devastating earthquakes in California and abroad has amply demonstrated the hazards inherent in many buildings designed under earlier structural codes and practices. The University has had an aggressive program of seismic corrections over the last two decades, and over 80 percent of University buildings that had been rated

before 1994 as being seismically “Poor” or “Very Poor” have received or are now receiving structural correction. The University anticipated having almost all the pre-1994 deficiencies corrected or at least underway by the year 2000 if funding levels were maintained. However, the Northridge Earthquake of 1994 and the subsequent Kobe earthquake provided substantial new understanding of earthquake forces and building performance, and resulted in significant changes in structural design codes and practices. As a result, the University re-evaluated many of its facilities, identifying additional buildings that required action to protect the lives of occupants. The problem has been particularly serious at Berkeley, where the central campus is immediately adjacent to the Hayward Fault, because it is now understood that forces experienced close to such a fault can behave differently and be much greater than previously estimated.

The Regents have continued to give high priority to completing the University’s program of seismic and other life safety corrections as rapidly as possible, and the new seismic projects have been incorporated into the capital program. This problem has had a significant impact on several campuses. The requirement to rebuild the UCLA Center for Health Sciences and many other buildings on the UCLA general campus which were damaged in the 1994 Northridge Earthquake, and the massive seismic corrections program at the Berkeley campus, present special problems. State funds have been supplemented by major FEMA support at Los Angeles, but even there, and particularly at Berkeley, the level of necessary additional funding presents a serious challenge and will require extraordinary campus investment and donor support, stretching campus resources to their limit for the next two decades. Unfortunately, the current reductions in State operations funding significantly reduce the ability of the campuses to continue to allocate available non-State resources for capital needs.

### **Capital Funding Strategies**

Over the past several years, the University has undertaken a number of efforts to assess its overall level of capital funding needs and to review a variety of funding strategies, assisted by a Capital Needs and Funding Strategies Task Force comprised of senior management staff from all the campuses. The University has shared its estimates of five-year funding needs for State-supported programs with the Department of Finance. This supports the Department’s legislatively mandated task of development of a five-year infrastructure plan for the State, an annual report first presented in 2002. The University has documented annual funding needs of approximately \$650 million per year, as noted above.

It is important to note that the definition of our five-year need is different and greater than the five-year capital budget for State funds that is presented in this document. The five-year budget request is based on reasonable assumptions concerning the level of State capital funding that we estimate will be available during this period, and presents specific projects in priority order based on that estimate of available funding. The budget request does not display our total funding need.

## **The Capital Planning Process**

Each campus routinely prepares a five-year capital program based both on a practical assessment of facility needs and on realistic expectations of the amount of capital funding that can be expected. This allows detailed planning efforts to be focused on those projects which are most important for the campuses and thereby avoids wasting resources in preparing unsuccessful funding requests. Projects proposed for State funding in the current capital improvement budget year are based on intensive, detailed planning and pre-design analysis that typically starts three years before initial State funding. This process supports effective internal decision-making, ensures the commitments that are made can be met, enables the University to explain the proposed projects effectively during State review, and improves project management during design and construction.

## **Organization of The Regents Budget For Capital Improvements**

This budget document focuses on projects for which State funding is requested in 2004-05. In addition, the document includes the five-year capital improvement program for State-funded projects, reflecting anticipated funding requests through 2008-09, and a summary of other unfunded campus capital needs (including both State and non-State-supportable facilities).

As in previous years, the non-State-funded capital improvement program is addressed separately. The non-State program is managed as a continuing process, amended as required to include new projects when funding opportunities arise or financing plans are developed. In contrast, the State-funded capital improvement program reflects the once-per-year funding cycle of the State Budget process.

This State-funded capital budget document is organized as follows:

## **1. 2004-05 Budget for Capital Improvements: State Funds**

The basic request for State capital outlay funds in 2004-05 totals \$339.4 million, with the expectation that it would be supported by the 2004 general obligation bond measure on the March 2004 ballot for electoral approval. In addition, a special research project is proposed for agricultural genomics at the Riverside campus, supported by up to \$55 million in special State funds (expected to be made possible as a result of the sale of a field property released by this change in direction of agricultural research).

The request is presented in summary form for the University as a whole in the following Overview section of this document. That Overview lists only those projects for which State funding is requested in 2004-05.

## **2. Campus Five-Year Capital Improvement Programs**

The five-year capital improvement program planned for State funding, covering the years 2004-05 through 2008-09, is presented in more detail in individual sections for each campus (including UC Merced), the Division of Agriculture and Natural Resources, and universitywide facilities and programs. Each campus section begins with an introduction that outlines the goals and problems which drive the capital program for the campus. It is followed by a table presenting the five-year program for State funding and a descriptive summary of each project in the five-year program. Each campus section concludes with a review of the capital needs of the campus beyond those addressed in the State-funded five-year program and approved non-State-funded projects; this includes both long-term needs that the University may propose for State funding in the future, and needs that will be addressed from other funding sources.

Regental approval is requested only for projects for which State funding is proposed in 2004-05—summarized in the following Overview section.

Projects that are listed in the five-year programs for funding in the second and subsequent years of the program have already received substantial internal consideration and are expected to continue to be reflected in future capital budgets. However, it must be noted that these five-year programs are planning documents and changes will occur as needs, opportunities, and funding decisions unfold.

## **2004-05 BUDGET FOR CAPITAL IMPROVEMENTS STATE FUNDS**

The 2004-05 Capital Budget requests \$339.4 million in State funds for the University's normal capital outlay program and \$55 million for a special agricultural genomics facility. This level of funding is essential to expand and upgrade academic facilities to support enrollment growth and to maintain progress on seismic and other life safety improvements while also addressing essential infrastructure and building renewal needs.

The attached summary budget schedule displays the complete 2004-05 State-funded capital budget request. This includes \$3 million to equip three projects for which construction has been approved and funded by the State. A total of \$339.4 million is requested to support 31 major capital projects for preparation of preliminary plans, working drawings, or construction, presented in Universitywide priority order, and \$55 million through lease revenue bonds for one additional project that will provide a specialized agricultural genomics facility at the Riverside campus.

Of the 31 major capital improvement projects, State funds are requested to support construction or complete design and undertake construction for 21 projects, and to begin or continue design on 10 projects.

Twenty-two projects are focused on urgent program improvements to accommodate past and projected enrollment growth and the modernization of facilities to address current program needs. Of these, 11 will provide new buildings to expand instruction, research, and academic support facilities; two will expand and renovate existing academic buildings; and five will renovate existing buildings for growing academic programs. In addition, two projects will renew and upgrade the infrastructure of existing laboratory buildings to address current academic program needs, and two will replace existing obsolete and deteriorated academic facilities.

Life safety continues to be a critical priority for the University, and six of the 31 project funding requests are to address serious seismic life safety hazards. Essential infrastructure renewal and expansion is the focus of three other projects, required to provide the services necessary to accommodate the demands of enrollment growth and associated campus development. The requirements of program improvement and enrollment growth will be supported by funding for construction of a biological sciences building at Irvine (priority 1), a psychology building at Riverside (2), a new facility for

wine and food science (the Robert Mondavi Institute) at Davis (3), a student academic services facility at San Diego (4), a new building for education and social sciences at Santa Barbara (7), the logistical and support services facility at the new Merced campus (12), and a combined addition and renovation of Mayer Hall at San Diego (14).

In addition, academic program improvements and enrollment growth will be supported by a number of new building projects for which funds are requested to begin and/or conclude design including the phased corrections and improvements to the McHenry Library at Santa Cruz (15), the Engineering Unit 3 project at Irvine (16), the Materials Science and Engineering Building at Riverside (20), the Physical Sciences Expansion project at Davis (26), the Digital Arts Facility at Santa Cruz (29), and the Music Building at San Diego (30).

Nine projects will address the deficiencies of aging buildings and support evolving academic program needs. Construction funding is requested for the Biological Sciences Buildings Renovation at Santa Barbara (5), Alterations for Engineering, Phase 2 at Santa Cruz (6), and the Applied Physics and Mathematics Renovation at San Diego (11). Funds to complete both design and construction are requested for the Geology and Physics Renovations project at Riverside (13), the second phase of Life Sciences Alterations at Davis (24), and upgrades for the Scripps Institute of Oceanography Research Support Facilities at San Diego (25). Funding is requested to begin and/or conclude design work in three additional projects: Medical Sciences Building Improvements, Phase 2 at San Francisco (17); Alterations for Engineering Phase 3 at Santa Cruz (27); and the Life Sciences Replacement Building at Los Angeles (28).

Six projects included in the 2004-05 State-funded Capital Budget will correct serious seismic and other life safety hazards. Funds requested for construction for the Geology Seismic Correction project at Los Angeles (9), the Seismic Corrections – Phase 4 project at Davis (10), and the Campbell Hall Seismic Correction project at Los Angeles (21). Two other seismic projects, Seismic Corrections Phase 3 at Santa Cruz (22) and the GSEIS Seismic Correction at Los Angeles (31), have requests for funds to complete design and construction. The Capital Budget request also includes funding to complete design on the first of three phased projects to seismically upgrade and renew the Center for Health Sciences South Tower at Los Angeles (23).

Critical infrastructure deficiencies will be addressed by funding requested to complete design and/or construction of renewal and expansion work in three



projects. This includes construction of the first phase of a new satellite utilities plant at San Diego (8), expansion of the campus wastewater treatment plant at Davis (18), and the second phase of improvements to upgrade and renew the electrical infrastructure system at Santa Barbara (19).

The final project funding proposal involves design and construction of a special agricultural genomics facility at the Riverside campus. The continuing evolution of agricultural science, addressing issues of importance to the agricultural economy of California, places increased emphasis on laboratory research in vital areas such as genomics. This allows the sale of a field research property that releases funds supporting development of this laboratory project. The University proposes that State lease revenue bonds be provided to fund this project, and that the proceeds of the sale of the field property be reverted to the State.

Overall, the University's 2004-05 and 2005-06 State-funded capital budget requests rely on financing to be provided by a new general obligation bond measure that the legislature has authorized for placement on the March 2004 primary election ballot. The success of this bond measure in the 2004 election is essential to the ability of the University to address existing and projected facility deficiencies. University enrollment has grown by approximately 24 percent in the last five years, and the expansion of facilities has lagged the increase in enrollment. Student demand is forecast to continue to grow dramatically in the next five years. In addition, the existing buildings and infrastructure of the campuses are aging and present serious problems of deterioration, obsolescence, and life safety. The new bond measure is essential if these problems are to be addressed, maintaining the quality of UC academic programs in support of a resurgent economy and the vital demographic demands of the State.

**University of California  
2004-05 BUDGET FOR CAPITAL IMPROVEMENTS**

CCCI: 4100  
EPI: 2627

Priority Number	Campus	Project	Prefunded (\$000)	2004-05 Budget (\$000)	Future Funding Requirements (\$000)	Total Project Cost (\$000)
<b><u>Capital Equipment for Previously Authorized Projects</u></b>						
---	SD	Pharmaceutical Sciences Building	PWC 27,728 C [360] X PWCE [12,325] LB	E 2,049	---	29,777 [12,685]
---	SB	Psychology Building Addition and Renewal	P [397] U WC 10,293 PWC [2,282] X	E 410	---	10,703 [2,679]
---	UW	Northern Regional Library Facility, Phase 3	PWC 18,020	E 499	---	18,519
<b><u>Major Capital Projects</u></b>						
1	Irv	Biological Sciences Unit 3	PW 3,592 C [4,000] LB	C 50,120	E 3,150 E [3,150] X	56,862 [7,150]
2	Riv	Psychology Building	PW 2,241	C 30,192	E 1,924	34,357
3	Dav	Robert Mondavi Institute for Wine and Food Science	PW 1,500 PW [1,800] X PWC [20,000] G	C 32,135	---	33,635 [21,800]
4	SD	Student Academic Services Facility	PW 2,131 PW [789] X	C 19,461 C [2,340] X C [5,000] LB	E 500	22,092 [8,129]
5	SB	Biological Sciences Buildings Renovation	PW 1,000	C 9,691	---	10,691
6	SC	Alterations for Engineering, Phase 2	PW 396	C 4,002	---	4,398
7	SB	Education and Social Sciences Building	PW 4,116 PW [600] G	C 49,706 C [7,232] G	E 2,432 E [218] G	56,254 [8,050]
8	SD	Satellite Utilities Plant, Phase 1	PW 647	C 8,200	---	8,847
9	LA	Geology Seismic Correction	PW 978	C 9,489	---	10,467
10	Dav	Seismic Corrections -- Phase 4	PW 574	C 6,714	---	7,288
11	SD	Applied Physics and Mathematics Renovation	PW 845	C 8,809	---	9,654
12	Merc	Logistical Support/Service Facilities	PW 874	CE 9,290	---	10,164

Priority Number	Campus	Project	Prefunded (\$000)	2004-05 Budget (\$000)		Future Funding Requirements (\$000)		Total Project Cost (\$000)
13	Riv	Geology and Physics Renovations		PWC	17,777		---	17,777
14	SD	Mayer Hall Physics Addition and Renovation	PW 3,559	C	25,096	CE E	12,071 [559] X	40,726 [559]
15	SC	McHenry Addition and Renovation	P 3,602	W	1,461	WCE	70,319	75,382
16	Irv	Engineering Unit 3		PW C	3,440 [8,591] LB	CE E	48,003 [3,150] X	51,443 [11,741]
17	SF	Medical Sciences Building Improvements, Phase 2	P 1,400	W	1,632	C	29,024	32,056
18	Dav	Campus Wastewater Treatment Plant Expansion Phase 1		PWC PWC	3,543 [3,080] X		---	3,543 [3,080]
19	SB	Electrical Infrastructure Renewal Phase 2	P [410] X	WC	7,305	W C C	[310] X 5,607 [2,097] X	12,912 [2,817]
20	Riv	Materials Science and Engineering Building		PW	3,749	CE	52,220	55,969
21	LA	Campbell Hall Seismic Correction	PW 534	C	5,084		---	5,618
22	SC	Seismic Corrections Phase 3	P [351] X	WC	7,514		---	7,514 [351]
23	LA	CHS South Tower Seismic Renovation Phase A	P [5,700] LB	W W	2,500 [1,700] LB	C C	44,800 [46,215] LB	47,300 [53,615]
24	Dav	Life Sciences Alterations Phase 2		PWC	3,506		---	3,506
25	SD	SIO Research Support Facilities		PWC	3,426		---	3,426
26	Dav	Physical Sciences Expansion		P	2,235	WC E	43,842 [1,196] X	46,077 [1,196]
27	SC	Alterations for Engineering Phase 3		PW	389	C	3,942	4,331
28	LA	Life Sciences Replacement Building		P P	2,200 [1,003] LB	WC WC E	64,533 [17,993] LB [1,300] X	66,733 [20,296]
29	SC	Digital Arts Facility		P	1,330	WCE	19,341	20,671
30	SD	Music Building		PW	3,802	CE	36,333	40,135
31	LA	Graduate School of Education and Information Science Seismic Correction		PWC	2,680		---	2,680
<b>TOTAL, General Obligation Funds</b>					<b>339,436</b>		<b>438,041</b>	
---	Riv	Genomics Building		PWCE	55,000			55,000
<b>TOTAL, Lease Revenue Bonds</b>					<b>55,000</b>			



**KEY TO SYMBOLS AND COST INDICES  
2004-2009 CAPITAL IMPROVEMENT PROGRAM**

**Project Phase Symbols**

P = Preliminary Plans  
W = Working Drawings  
C = Construction  
E = Equipment

**Fund Source Symbols**

No Symbol = State Funds  
HR = Hospital Reserves  
LB = Long-Term UC Financing  
F = Federal Funds  
G = Gift Funds  
GF = State General Fund  
GO = General Obligation Bond Fund  
LR = Lease Revenue Bond Fund  
U,X = University Funds

**Abbreviations**

asf = assignable square feet  
gsf = gross square feet  
ogsf = outside gross square feet  
FTE = Full Time Equivalent  
kV = Kilo Volts  
mVA = Million Volt Amperes  
LRDP = Long Range Development Plan  
DGS = State Department of General Services

All unfunded project costs for State-funded facilities in this Budget are based on California Construction Cost Index (CCCI) 4100 and moveable equipment costs on Equipment Price Index (EPI) 2627, as projected for July 2004. Since these indices are associated with the 2004-05 Budget, individual project costs estimated for years beyond 2004-05 do not include an adjustment for inflationary increases.



# BERKELEY CAMPUS

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## Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2002-2003 (ACTUAL)	24,499 FTE undergraduates 7,970 graduate students 714 health science students
LIBRARY COLLECTION	9.6 million volumes
CAMPUS LAND AREA	1,290 acres
CAMPUS BUILDINGS	9.0 million assignable square feet

# **BERKELEY CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

## **INTRODUCTION**

Since its doors first opened in 1873, the Berkeley campus and its facilities have continually evolved to accommodate the University of California's mission of instruction, research, and public service. Early planners designed and built the Berkeley campus on undeveloped lands. As the University grew in size and importance, its development choices became more complicated and its constituencies more numerous. Today, to provide the facilities needed to support the University's academic mission within the bounds of available resources, the campus must address the diverse interests of its faculty, students, and staff, as well as those of neighboring communities, regional jurisdictions, and the State of California.

### **The State of the Campus**

The Berkeley campus has effected a number of changes over the past two decades enabling it to continue to recruit the best faculty and to attract a highly qualified and diverse student body, nationally and internationally. Significant actions taken by the campus include the following:

- substantial additional or replacement student housing completed or underway at several sites near campus and at University Village
- reorganization of the biology faculty and curriculum and completion of an ambitious program to build or renew five biology buildings
- construction of new buildings for business, computer science, space science, chemical engineering, student health, and athletics, major additions for humanities, law, and optometry, and several new branch library facilities
- successful completion of two major fund-raising initiatives, "Keeping the Promise" and "New Century Campaign"
- establishment of an ambitious, ongoing seismic safety corrections program, with corrections made in over 30 buildings and coordinated with program improvements



## **BERKELEY CAMPUS INTRODUCTION (continued)**

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- launching of the “Health Sciences Initiative”, a bold new effort to understand and solve today’s major health problems, that includes two major buildings, one already under construction
- comprehensive review of all campus organized research units, recommendation of eight new campus organized research units, and increased support for sponsored research
- restructuring and expansion of program reviews to improve the quality and efficiency of academic and administrative units
- establishment of two California Institutes for Science and Innovation
- establishment of new degree programs such as American Studies, Bioengineering, Asian Studies, Information Management and Systems, Ocean Engineering, Urban Design, Financial Engineering, and Environmental Science, Policy, and Management
- identification and funding of new interdisciplinary programs critical to the State’s economy and to campus growth, including computational biology, nanoscience, and nanoengineering
- expansion of Summer Sessions and Extension programs to accommodate increased enrollments
- implementation of new policies and services to improve graduation rates and decrease time to degree
- expansion of outreach programs to increase enrollment of underrepresented groups
- enhancement of undergraduate education including increased undergraduate research opportunities, more student engagement with faculty, enhanced instructional technology tools, and regular assessment of undergraduate education
- improvement of business and information systems (e-Berkeley, Berkeley Financial System, Human Resources Management System)

Having entered the new century, the campus continues to meet the challenge to sustain and strengthen the institution in the face of serious financial constraints. A dominant element of the Berkeley campus capital program in the current decade is a series of projects intended to correct seismic life safety hazards. New seismic studies undertaken in 1997 in light of code changes and information from the 1994 Northridge and other earthquakes indicated that nearly 100 campus structures, accounting for 27 percent of campus space, required structural improvement. Therefore, despite significant past progress in correcting buildings with “Poor” or “Very Poor” seismic ratings, there was much additional work to be accomplished. The campus prepared a

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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comprehensive new “SAFER” Plan (Seismic Action Plan for Facilities Enhancement and Renewal) to guide its planning in light of this information and recognizes this program as essential to protect lives and to ensure UC Berkeley’s continued viability as a premier educational institution. Specific projects necessary to correct the remaining seismic deficiencies, which were estimated to cost in excess of \$1 billion, must be scheduled over a 20-year time frame, with the most critical life safety work completed within the first ten years. The funding available from the State will cover only part of the cost of this program, and every possible fund source is being explored to make this effort successful.

To maintain academic quality while carrying out seismic repairs, the campus will pursue concurrent opportunities to renovate, replace, and expand its buildings, as appropriate, to meet programmatic needs as well as to renew building systems that have reached the end of their useful lives. The campus has placed great emphasis on the need to address its extensive backlog of deferred maintenance and to schedule this work in tandem with seismic corrections and program improvements, although recent funding reductions in this area put continued progress in jeopardy. A systematic, ongoing capital renewal program is critical to keep the capital assets of the campus up to date. In a limited number of cases, new construction will be the most cost-effective and appropriate solution. Examples of the latter are new buildings in the northeast precinct for two California Institutes for Science and Innovation (the California Institute for Bioengineering, Biotechnology, and Quantitative Medicine [QB3] and the Center for Information Technology Research in the Interest of Society [CITRIS]) and for Physics and Astronomy, and in the northwest precinct for the School of Public Health and other elements of Berkeley’s Health Sciences Initiative.

Projections of enrollment demand for the University made in the mid-1990s by the State Department of Finance indicated a significant growth in the college age population from 1998 to 2010 (“Tidal Wave II”). To accommodate this growth, the Berkeley campus agreed to increase its general campus enrollment (excluding health sciences and self-supporting programs) by 4,000 FTE students. Through a combination of expanded summer sessions, off-campus programs, and the regular semesters, Berkeley has met over 80 percent of this enrollment goal. The campus continues to study how to accommodate the additional growth within local environmental and other constraints to minimize the effects on its infrastructure and on the

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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surrounding community. The total on-campus headcount enrollment for the 2002-03 academic year was 31,371.

### **Campus Development**

For some time campus development has been guided by two major planning efforts that provided comprehensive descriptions of facility needs and capital improvement plans: the Berkeley Campus Space Plan (1981) and the 1990 LRDP. The 1990 LRDP needs to be updated as the campus enters the 21st century. Many guiding principles of the 1990 LRDP are expected to be continued. The Berkeley campus will accommodate its facility needs by optimizing space assignments, renovating or modifying existing facilities, constructing new infrastructure and a limited number of new buildings, and enhancing environmental resources. Berkeley aims to accomplish these goals while preserving the important historic fabric of the campus. To this end, the campus has prepared the “New Century Plan,” a new facilities master plan to guide the continuing “SAFER” program and account for new, critical program initiatives that were not predicted when the 1990 LRDP was prepared. To provide the necessary academic foundation for the updated LRDP, which will guide campus development through 2020-21, a joint academic planning effort with the administration and the Academic Senate has culminated in a campus Strategic Academic Plan.

1. **Capital Needs:** Improvements to the physical plant are essential to ensure the safety of building occupants, to support state-of-the-art education and research, and to meet new facility standards if the campus is to continue to attract the best faculty, students, and staff. Capital needs at the Berkeley campus derive from several factors:
  - **Seismic Corrections:** The campus needs to complete the program of seismic corrections described above. The Berkeley campus is located in an area of extensive seismic activity, with many of its buildings close to the Hayward Fault and in need of strengthening. Given the magnitude of the problem, a 20-year program is required, drawing on multiple fund sources and addressing the most critical life safety needs in the first ten years.
  - **Changing Academic Needs:** The campus needs to rectify crowding in existing facilities, provide for emerging new

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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instructional methods and technologies, accommodate new research subjects and technologies, and incorporate new approaches to management of computing services and information systems. Particularly critical for the campus are recent initiatives in the life and physical sciences, with strong emphases on the biomedical field, on nanoscience, and on interdisciplinary connections.

- **Facility Age and Obsolescence:** The campus needs to modernize buildings that have become obsolete, complete the upgrade of buildings with life safety and other code deficiencies, make existing buildings more accessible to disabled users, and provide adequate space for activities still housed in substandard facilities.
- **Infrastructure Needs:** The campus needs to complete its communications network to accommodate new computing and communications technologies, rehabilitate and expand its aging and inadequate utilities systems, and optimize access and circulation through development and reconfiguration of roads, parking areas, bicycle routes, and pedestrian ways.
- **Changing Support Needs:** The campus needs to provide adequate facilities for specialized student services, improve sports and recreational facilities, and continue to address the need for faculty and student housing at affordable prices in a tight housing market.
- **Environmental and Historical Needs:** The campus needs to take advantage of opportunities to improve its open space and conserve the natural features of the central campus, the hill area, and outlying properties. Among the most important campus features are a number of historically significant buildings and other elements that require preservation and restoration.
- **Transportation Needs:** The campus needs to continue its work with local community agencies to provide reliable and affordable mass transportation for the campus community. The cost of living in the Bay Area causes many faculty, staff, and students to live at some distance from the campus. As available parking

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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spaces will be limited, mass transportation and other alternatives need to be encouraged.

- 2. Development Strategy:** Since the Berkeley campus is densely developed, a dual strategy of conservation and development is being applied. When feasible, academic and administrative facility needs are met through more intense space use and selective renovation of existing facilities. When this approach is inadequate, the campus considers using its few remaining building sites for new construction. The Berkeley campus has a long and successful history of supplementing State resources with private gifts for capital improvements. This reliance on private generosity will continue, but the magnitude of the expanded seismic program, in particular, will require new revenue sources. The use of long-term debt will remain the primary means to finance projects for auxiliary and self-supporting programs.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**BERKELEY CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2004-05 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2005-06 (000s)	2006-07 (000s)	2007-08 (000s)	2008-09 (000s)	
	Seismic Safety Corrections, Giannini Hall (912051)			P 1,055 W 1,420 C 18,460 C [2,185] X				20,935 [2,185]
	Campbell Hall Replacement Building (912017)			P 2,450 P [1,325] G W 2,950 W [1,530] G	C 57,030 C [30,400] G		E 2,000 E [2,000] G	64,430 [35,255]
	Seismic Safety Corrections, Davis Hall (912025)			P 1,900	W 2,900	C 37,200		42,000
	Seismic Safety Corrections, Mulford Hall (912045)				P 1,530	W 1,785	C 32,350	35,665
	Seismic Safety Corrections, Hearst Gymnasium Academic Building (912179)						P 900	16,930
	<b>CAMPUS TOTAL</b>			<b>28,235</b> <b>[5,040]</b>	<b>61,460</b> <b>[30,400]</b>	<b>38,985</b>	<b>35,250</b> <b>[2,000]</b>	

**BERKELEY CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**Seismic Safety Corrections,  
Giannini Hall..... PWC \$ 20,935,000  
C \$[ 2,185,000]X**

Giannini Hall is a 46,009 asf building that was constructed in 1930 and serves programs in the College of Natural Resources, including the Dean’s Office, the Department of Agricultural and Resource Economics, the Department of Environmental Science, Policy, and Management, and the Giannini Foundation of Agricultural Economics. The building is rated seismically “Poor” (DGS level VI) and is a serious life safety hazard. Deficiencies include a discontinuous perimeter wall above the first floor to the west, an irregular shear-wall layout, lack of shear-wall support, and nonductile connections. The project will improve the lateral force resisting system to a “Good” rating by adding new shear walls, collector beams, grade beams and footings, and other structural elements. The proposed reinforcing scheme will preserve the historic integrity of this important campus structure while providing the needed seismic corrections. Mandatory correction of fire and life safety and accessibility code deficiencies also will be completed.

**Campbell Hall  
Replacement Building.....PWCE \$ 64,430,000  
PWCE \$[35,255,000]G**

Campbell Hall is a 40,362 asf building that houses the Department of Astronomy, two related organized research units, major programs in the College of Letters and Science, and an astronomical observatory on the roof. The building is rated seismically “Poor” (DGS level V) and is a serious life safety hazard. Campbell Hall has inadequate shear walls, inadequate shear-wall supports, and weak exterior concrete frames. Correction to achieve a “Good” rating would require improvements to the shear-wall supports to increase the building’s lateral resistance as well as mandatory correction of fire and life safety and accessibility

## **BERKELEY CAMPUS CAPITAL PROGRAM (continued)**

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code deficiencies. Because of the need to address important programmatic requirements as well as the high cost to correct the seismic hazard, it is planned to replace the building with an approximately 76,600 asf integrated physical sciences building to provide modern laboratories and other space for the departments of Physics and Astronomy.

### **Seismic Safety Corrections,**

**Davis Hall..... PWC \$ 42,000,000**

“New” or “South” Davis Hall is an 81,285 asf facility built in 1966. It houses part of the Department of Civil and Environmental Engineering, an open computer laboratory, and two general assignment classrooms. The building is rated seismically “Poor” (DGS level V) and is a life safety hazard. It has discontinuous shear walls on three sides, shear-wall supports and piers are inadequate to resist seismic forces, and the building lacks adequate diaphragm strength above the 56-foot-wide open high bay testing laboratory. The project will strengthen vertical structural elements to increase the building’s ability to resist lateral forces, among other corrections, to attain a rating of “Good”. Mandatory correction of fire and life safety and accessibility code deficiencies also will be completed.

### **Seismic Safety Corrections,**

**Mulford Hall ..... PWC \$ 35,665,000**

Mulford Hall is a 47,212 asf building constructed in 1948 that houses the Department of Environmental Science, Policy, and Management, selected programs of the School of Public Health, and four general assignment classrooms with a total of 229 seats. The building is rated seismically “Poor” (DGS level VI) and is a serious life safety hazard. It has inadequate shear-wall area, perimeter-bearing walls that are too stiff, and inadequate diaphragm integrity at the eastern re-entrant corner. The project will strengthen the lateral system to reduce stress on the perimeter shear walls, add new interior shear walls, and add new collector paths to attain a rating of “Good”. Mandatory correction of fire and life safety and accessibility code deficiencies also will be completed under this project. The campus is studying the need for program-related improvements, to be funded from non-State sources and coordinated with this project for cost-effective implementation.



## **BERKELEY CAMPUS CAPITAL PROGRAM (continued)**

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### **Seismic Safety Corrections, Hearst Gymnasium**

**Academic Building..... PWC \$ 16,930,000**

Hearst Gymnasium is an 84,053 asf facility built in 1927. It provides space for teaching programs in the biological and social sciences in the College of Letters and Science (the Physical Education Program and the Departments of Integrative Biology and Anthropology), research collections of the Hearst Museum of Anthropology, and a general assignment classroom. The building is rated seismically “Poor” and is a serious life safety hazard. Its structural weaknesses include many discontinuous interior and exterior shear walls as well as supporting beams and columns that provide little or no resistance to seismic forces. In addition, skylight openings impede the transfer of seismic forces from the roof and floor diaphragms to the shear walls. The project will strengthen the building by filling in openings below discontinuous shear walls and selected skylight openings in the roof, resulting in a rating of “Good”. Mandatory correction of fire and life safety and accessibility code deficiencies also will be completed.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS**

The Berkeley campus capital program emphasizes renewal and limited new construction. Paramount among campus needs is the completion of necessary seismic safety corrections for many campus buildings, and the SAFER Plan is a key document to guide campus planning in the coming years. The other principal current sources of guidance are the Berkeley Campus Space Plan, the 1990 LRDP, and more specialized studies, new initiatives, and plans developed since those general plans were prepared, including the Strategic Academic Plan and New Century Plan. An update of the 1990 LRDP is in progress.

Retrofitting will be the dominant approach to seismic corrections, and the campus will take the opportunity to carry out needed building renovation and renewal in coordination with structural work. Although there are limited building sites left on the Berkeley campus, some replacement and expansion through new construction is also necessary to resolve particular campus space and facility problems, including replacement of seismically unsafe structures where retrofit is not economically prudent and expansion is required to accommodate campus growth. A strategy to use multiple fund sources is essential to finance this capital program.

Because of the high proportion of older buildings, current crowding, and the dispersed locations of some departments, a very strongly coordinated building renewal and seismic corrections program is a necessity. This requires space in which to relocate units during renovation. The renewal process is planned to effect a more efficient use of campus facilities while preserving the park-like qualities of the campus.

### **1. Core Academic Facilities**

Capital needs for particular teaching and research units are presented in alphabetical order and do not reflect campus priorities.

**Classrooms:** Ongoing capital projects and an intensified deferred maintenance program have significantly improved existing classrooms and seminar rooms, but additional work is needed. As modes of instruction have changed, many classrooms have not been fully

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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adapted to modern teaching technologies. Needs include new or improved audiovisual facilities; upgrading of lighting and ventilation; redesign of seating, other furnishings, and equipment; acoustical corrections; code corrections and physical rehabilitation; and, in some instances, expansion or subdivision of rooms to provide an optimum mix of classroom sizes and types for contemporary instruction methods. Phasing of improvements is required to bring classrooms up to date without disrupting instruction.

**Humanities, Social Sciences, and Professions:** A number of units in the humanities, social sciences, and professions suffer from lack of space or are housed in buildings that, because of age, wear, and obsolescence, are inadequate and hamper academic programs.

- Inadequate and fragmented facilities of the **Department of Anthropology** and insufficient space for the **Hearst Museum of Anthropology** may require expansion of Kroeber Hall or additional space at another site.
- The **Department of Music** requires additional space for performance, ethnomusicology, composition, and other specialized programs, as well as redesigned and expanded practice, office, and teaching facilities. These needs will be partly met by renovation of Morrison Hall following relocation of the Music Library to a new building, and by renovation of the old Art Gallery.
- Several older buildings need rehabilitation. Durant Hall, one of Berkeley's earliest historic buildings, requires extensive rehabilitation to correct serious heating, ventilation, electrical, and accessibility problems. This building cannot adequately accommodate its current occupants, the **Department of East Asian Languages and Cultures** and the **East Asian Library**. Dwinelle Annex, home of the Department of Theater, Dance, and Performance Studies, requires major refurbishment and upgrading for changing uses as well as correction of seismic deficiencies.
- The space needs of the **School of Social Welfare** will be addressed by space reassignments in Haviland Hall.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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- The need of the **UC Berkeley Art Museum** for improved and expanded space for staff and collections will be addressed in conjunction with planning for the seismic corrections project for the Museum.

**Libraries:** A number of library branches have problems of obsolescence. New space totaling approximately 71,000 asf, to be built in two phases, is proposed for the **East Asian Library**, the **Department of East Asian Languages and Cultures**, and the **Institute of East Asian Studies**. Additional space needed for the **Bancroft Library** is also under study. Other library branches need redesign, upgraded technology, and in some cases expansion.

**Life and Health Sciences:** Berkeley's programs in the life sciences are housed in 20 major buildings on the central campus, as well as in off-campus facilities. The academic reorganization of the biology disciplines at Berkeley and the accompanying building program were highly successful in what they accomplished, but unmet facilities needs remain and new needs have arisen.

- New facilities totaling 150,000 asf as well as renovations to existing space are planned for the biomedical program in the northwest precinct, including laboratories, offices, and support space for the **School of Public Health**, the **Wills Neuroscience Institute**, the **Cancer Research Laboratory**, and **Biological Sciences** and **Natural Resources** units. The programmatic themes for the new building will include infectious diseases, biocomputation and biostatistics, cancer biology, genomics, and neuroscience.
- Most of the campus buildings occupied by the **College of Natural Resources** need renovation to respond to program changes in the life sciences, which now place heavier emphasis on sophisticated chemical, physical, and biological methods for research and teaching and require more wet laboratory bench space, utilities, fume hoods, and environmental controls. An important example is the growing program in microbial biology. Program upgrades will be coordinated with seismic corrections where needed.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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- The **School of Public Health** remains split among six campus buildings and various off-campus rental sites, and Warren Hall, rated seismically “Poor” and near the end of its useful life, is targeted for removal. The School’s need for wet laboratories will be largely addressed under the new Health Sciences Initiative, and additional and replacement office space will be provided in University Hall.
- Updated, upgraded, and additional facilities at the **Botanical Garden** are required to meet the Garden’s expanding role in teaching and research in addition to its public service mission.
- The **Department of Plant and Microbial Biology** and the **Department of Environmental Science, Policy, and Management** need more experimental growing space for plants, including modern greenhouse space and additional field areas.
- The campus manages fourteen field stations, mostly under the aegis of the **California Biodiversity Center** or the **Center for Forestry**, which have significant needs for improved or expanded facilities.

**Physical Sciences and Engineering:** The physical sciences and engineering departments need improved laboratory space because of changes in the nature of these academic disciplines, the advance of technology, obsolescence of buildings, deterioration of building systems, and increasing need for protection from environmental hazards connected with research and instruction.

- In addition to replacement of Campbell Hall with a new integrated physical sciences building for the **Departments of Physics and Astronomy**, renovation of outdated space in LeConte Hall is required.
- The problem of inadequate power capacity for modern laboratories is keenly felt by the **Physical Sciences and Engineering** programs. Increased use of computers and other sophisticated equipment strains building power systems, and in some cases the installation of additional research equipment is

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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limited by the power available. Plans to upgrade building power systems where the problems are greatest will be coordinated with other campus infrastructure and seismic projects.

- Facilities of the **College of Chemistry** require an ongoing program of major renovation and expansion, particularly for synthetic chemistry. Upgraded ventilation and utilities are particularly important to provide greatly increased fume-hood capacity. Special attention will be given to expanding capacity while increasing energy conservation. The campus will continue its phased laboratory renovation of Latimer Hall and extend this program to other buildings. Gilman Hall also needs upgrading to convert it to non-laboratory uses, as it can no longer meet laboratory building code requirements.
- Several **College of Engineering** buildings—particularly Hesse Hall, McLaughlin Hall, and Cory Hall—require replacement or major upgrading and modernizing to improve utility systems, accessibility, and life safety, and to provide program improvements. The Naval Architecture Building, constructed in 1914 as a temporary building and now considered of historic significance, requires rehabilitation to solve a variety of seismic, code, heating and ventilation, and sound insulation problems.

**Richmond Field Station:** Significant new construction, infrastructure improvements, hazard remediation, site upgrading, and other work at this off-campus location are necessary to realize its potential as a research center and to create a suitable environment for programs for which there is insufficient room on the central campus. Third party development options are being explored.

### **2. Administrative and Support Facilities**

**Alumni and Visitor Affairs:** Expanded and renovated space for the Alumni Association is under consideration to accommodate expanded activities and possibly to provide a permanent location for the Visitor Center. Improved visitor parking also is needed.

**Computer and Communications Facility:** The central computer and communications facility for the campus, located in the basement of

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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Evans Hall, suffers from significant code and other deficiencies which seriously threaten the ability of the University to conduct administrative and academic affairs. Plans are near completion to relocate these facilities to seismically sound and appropriately designed space providing reliability for campus computing and communications systems and other critical services. Unit-level computing centers located in buildings targeted for seismic upgrading will be evaluated for relocation to suitable central space. As part of the campus disaster management and emergency preparedness plan, communications equipment will be moved to seismically safe locations around the campus to provide more redundancy and resiliency for critical communications services and thus remain operable in an emergency.

**Relocation of Administrative and Service Activities:** Further relocation of selected administrative and support units is expected to consolidate functions, reduce leased space, and release central space for other programs. Alterations to existing facilities will be needed to accomplish this.

**Recreational Sports:** Expansion, improvement, rehabilitation, code correction, and safety projects are needed for the **Department of Recreational Sports** at the Strawberry Canyon Recreational Area, the Clark Kerr Campus, and the Recreational Sports Facility. Existing campus playing fields and courts are heavily used and cannot meet present demand for outdoor recreation facilities, particularly since Underhill Field and Hearst Athletic Field have been converted to other uses as a result of the seismic program and are no longer available. Renovation of existing fields and development of at least one new field would provide enough acreage for a workable rotation-and-rest plan.

**Student Services:** Despite improvements, several student services remain in inadequate space or continue to lease space off the campus. Alternatives are under review to correct crowded conditions and to provide improved, consolidated space for more efficient and effective delivery of student services. A redesign of lower Sproul plaza and environs is expected to provide the foundation for a plan to improve personal safety and provide programmatically enhanced, seismically safe facilities for student programs and services.

### **3. Auxiliary Enterprise Facilities**

**Dependent Care:** Additional facilities for dependent care for students, faculty, and staff are needed. A new facility for 125 infants, toddler, and preschool children, funded from gift and University sources, is planned at a south campus site. As additional funding sources for services are developed and new projects are planned, additional dependent care facilities will be considered for inclusion in the capital program.

**Housing and Dining Services:** The student housing situation remains challenging, given the general high cost and shortage of housing in the Bay Area as well as students' strong preference to live as close to the central campus as their budgets can afford. In fall 2003, the campus was able to provide rooms to all incoming freshmen and transfer students who met the housing application deadline, and to accommodate all continuing student applicants and a majority of applicants from the UC Extension Fall Program for Freshmen. However, even with the continued easing of the housing market that started in 2002, vacancy rates in Berkeley remain low and expansion of the University-operated housing stock is sorely needed. Among other housing goals, the campus has set an objective of accommodating more sophomores and first-year graduate students in campus housing. Beyond the 1,117 beds under construction at the Bowditch-Channing and Units 1 and 2 sites, future projects, including possible third-party development projects, could provide as many as 1,640 more beds.

Improvements also are needed to existing University-owned student housing at University Village, the Clark Kerr Campus, and Bowles and Stern halls. The first phase has been completed in a plan to replace or renovate 920 units of student family housing at University Village in Albany, and the second phase of redevelopment and a third-party development are expected to be complete in three to five years. However, projects are currently constrained because rising costs of construction and lack of additional revenue-generating spaces mean housing rates must be increased to meet the debt obligations for renovation projects. Given the magnitude of what is needed, renovation projects must be carefully prioritized and phased.



## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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Housing is also a critical problem for new faculty and staff. The shortage of affordable housing for sale or rent near campus impacts the academic program by affecting the ability of the Berkeley campus to recruit and retain faculty, particularly young professors.

**Intercollegiate Athletics:** A plan to correct seismic deficiencies in California Memorial Stadium will be implemented in phases and coordinated with needed program upgrades. Major improvements are also needed at the Spieker Aquatics Complex.

#### **4. Utilities, Site Development, Transportation, and Parking Improvements**

**Accessibility:** The Berkeley campus is committed to making its educational program, and facilities accessible to persons with disabilities. Campus programs open to the wider public, such as conferences, performing arts, and sports activities, must also be accessible. In response to the Americans with Disabilities Act (ADA), the campus carried out a self-evaluation and prepared a transition plan in 1993. Though much work already has been done and is currently in progress to provide primary access to programs, the campus is continually identifying additional work necessary to comply with ADA (federal) and Title 24 (State) access requirements. Preliminary results indicate that access improvements will especially be needed along campus pathways, for specialized program spaces, and at peripheral sites and other properties. Older buildings also present special accessibility challenges.

**Building Mechanical Systems:** Mechanical systems require a program of systematic replacement and upgrades to extend their lives and meet codes. Many buildings have major heating and ventilation deficiencies, especially in relation to current health and life safety code requirements and indoor air quality. Some systems were designed inadequately, others are unsuited to current needs or have exceeded their useful lives, and others cannot accommodate the demands of energy conservation measures and more intensive use. These factors can create health hazards and excessive noise, dirt, discomfort, and inefficiency in space assignments. Many of the faulty and outdated systems waste energy and need up-to-date equipment or redesign.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Campus Communications Infrastructure:** Use of electronic communication in a wide variety of technologies has become critical to almost all campus programs and activities, and demand is expected to continue to increase rapidly over the next decade. The current campus infrastructure is unable to support the required physical cabling and distribution topologies. The fifth step of a phased, multiyear program to build a new Interbuilding Campus Communications System (ICCS) linking all campus buildings is in design.

**Landscape Improvements:** Major construction on the Berkeley campus during past periods of development has overshadowed, to some degree, the need for judicious preservation and enhancement of existing open space and landscape resources. Now, limitations on campus density require that capital development give careful consideration to the impact on outdoor space. Specific projects will be developed to redesign critical areas, improve public circulation, enhance environmental quality, and install, upgrade, and coordinate campus lighting, signs, furnishings, and outdoor art. Examples are redesign of major campus entrances and core campus spaces such as the western terminus of Campanile Way, the Wellman courtyard, the southern campus entrances at College and Telegraph avenues and Dana Street, and upper and lower Sproul and Dwinelle plazas.

**Parking:** The campus needs additional parking spaces, owing to regional and campus factors that have increased demand for vehicle access. However, continued removal or reduction of surface parking lots for building sites and future capital development will further reduce opportunities for surface parking on the central campus. In addition, restrictions by the city on nearby on-street parking have diminished the amount of available parking. Expansion of attendant parking has alleviated some of the need, and a campus transportation and parking plan that relocates some parking to peripheral and satellite sites and shifts travel to other transportation modes has been implemented. However, most off-campus surface lots are also potential development sites, and future use of these sites for building may require replacing the parking in structures as part of the overall development plan. In accord with Systemwide parking principles, the campus has established a policy to provide for replacement of parking spaces removed by capital development, and planning is continuing for construction of additional parking to replace spaces already lost or

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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targeted for removal. The need to increase the campus parking inventory from 8,500 to 10,000 spaces will be addressed in the update of the campus LRDP.

**Site Development:** Potential land slippage caused by underground water at hillside sites is a serious problem, and a hill dewatering and stabilization project is needed to correct this problem. As part of an overall environmental plan for the campus, restoration of the native flora and deteriorated banks of Strawberry Creek is also a priority.

**Utilities Modernization and Expansion:** The network of underground utilities is in severe physical decay. Breakdowns are not uncommon in water, steam, sewage, and electrical lines, and increased demand has brought utility systems to the limits of their capacity. A continuing and systematic program to overhaul utility systems is needed to support normal operations, provide for the increasing needs of research and instruction, and address code requirements in order to maintain service. The main campus steam tunnel is seriously deteriorated and requires repair or replacement. Studies are continuing to promote increased energy conservation and greater reliability in supplies of electricity and heating fuel. Capital investment also may be required to address restrictions on currently used refrigerants that will require alternative cooling methods for campus buildings. Ongoing improvements to the systems for gas, water, sanitary sewage, storm drainage, and steam are being coordinated with each other and with planned electrical and communications projects.

### **5. Code Corrections for Health and Life Safety**

**Asbestos:** The danger of airborne asbestos fibers has been recognized for several decades. Asbestos was formerly used extensively as a building material, and large quantities were incorporated into campus buildings and underground utilities. When asbestos is found in the course of a maintenance or renovation project, it is handled with special precautions and removed from the immediate workplace. These precautions add considerable project cost. Abatement has been undertaken in both non-State-funded and State-funded facilities, and the highest priority problems have been addressed. It is anticipated that, given the scope of planned construction and the extensive

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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presence of asbestos-containing materials on campus, abatement activities will continue as a component of maintenance and renovation projects.

**Lead:** Although its application was effectively banned in 1978, lead-containing paint is still present in many campus buildings. The dangers of exposure to lead paint chips, contaminated soils, and lead-containing dust, fumes, and mists have been known for many years. Regulatory agencies impose certification requirements for contractors removing lead-containing paint. Paint sampling and airborne monitoring are frequently required during abatement activities, and lead debris must often be disposed of as hazardous waste. These requirements can add significantly to project costs. Because lead-containing paint is so common in older buildings, lead abatement will continue to be a component of many campus renovation projects.

**Fire:** It is necessary to complete the program to correct or mitigate campus fire and life safety code deficiencies, particularly within high-rise buildings and high-hazard facilities. In particular, a significant number of building fire-alarm systems need upgrading to meet current codes, or replacement owing to obsolescence. Since the obsolete systems cannot be maintained, false alarms annually have caused numerous unnecessary building evacuations that have affected daily campus operations and reduced building occupants' confidence in the fire alarm systems.

**Underground Storage Tanks:** Monitoring will continue at some locations where corrective action has already taken place and to ensure there are no further problems. Projects to upgrade any newly-identified contaminated sites will need to be prioritized and funded.

**Richmond Field Station Site Remediation:** The campus is required by the California Health and Safety Code and Water Code to investigate and remediate pollutants at the Richmond Field Station that pose a threat to human health and ecological receptors. A history of industrial activities at the Station and adjacent properties has resulted in significant widespread pollution. The Regional Water Quality Control Board has issued a Cleanup and Abatement Order that is driving a costly, multi-year remediation, restoration, and monitoring program.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Storm Water Quality:** Federal storm water regulations require that the campus operate under a National Pollutant Discharge Elimination System Permit and develop a Storm Water Management Plan. The campus submitted this plan to the water quality board in March 2003 and is awaiting designation and approval. The permit will require development and implementation of best management practices and new programs for campus facilities operation, maintenance, and construction activities to reduce the discharge of pollutants into Strawberry Creek and San Francisco Bay to the maximum extent practicable. Implementation and monitoring programs will establish new responsibilities and require additional funding.

### **6. Corrections for Seismic Safety**

Because of the age of buildings on the Berkeley campus and because a major earthquake fault runs beneath a portion of the campus, the risk to human life and property from earthquakes is especially severe. An early study of buildings occupied by State-supported programs indicated that a significant proportion of the most hazardous buildings in California was on the Berkeley campus. Many of these structures were seismically strengthened in the 1980s and 1990s. However, new information from the Northridge and Kobe earthquakes led to more stringent building code requirements in the late 1990s, and a consequent re-examination of campus buildings identified additional structures as deficient. In total, this re-examination effort confirmed a seismically deficient rating for nearly 100 structures, comprising 27 percent of Berkeley's assignable space. The severity of the hazard is accompanied by a high cost for structural renovation. This large amount of work is being accomplished under the SAFER Plan over 20 years, with the most severe hazards scheduled for correction in the first half of that time period. Corrections involving over 30 buildings have already been completed, along with work to mitigate nonstructural hazards.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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### **7. Energy Conservation Improvements**

Since the advent of energy conservation programs, the campus has made considerable progress in reducing energy consumption and reforming patterns of energy use. The campus anticipates further projects involving the central control system and cogeneration plant. Expansion of the successful central control system, which now covers 63 buildings, is an important goal. Further retrofit projects involving more energy-efficient cooling systems and variable-speed fans are likely. Of particular importance will be replacement of failing steam lines, which cause energy loss throughout the campus.

# DAVIS CAMPUS

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## Capital Improvement Program

ESTABLISHED	1905
ENROLLMENT 2002-2003 (ACTUAL)	22,164 FTE undergraduates 3,755 graduate students 2,086 health science students
LIBRARY COLLECTION	3.3 million volumes
CAMPUS LAND AREA	5,993 acres
CAMPUS BUILDINGS	6.5 million assignable square feet
HOSPITAL AND CLINICS	1.6 million assignable square feet
VETERINARY HOSPITAL	136,071 assignable square feet

## **DAVIS CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Founded in 1905 as the University Farm, UC Davis became a general campus of the University of California in 1959. While the campus is an acknowledged longstanding international leader in agricultural and environmental sciences, veterinary medicine, and biological sciences, it has in recent years gained similar recognition for excellence in the arts, humanities, social sciences, engineering, health sciences, law, and management. UC Davis now offers more than 100 undergraduate majors and 70 graduate programs in the College of Agricultural and Environmental Sciences, the College of Engineering, the College of Letters and Science, and the Division of Biological Sciences. These programs, and the campus' five professional schools—the School of Law, Graduate School of Management, School of Medicine, School of Education, and School of Veterinary Medicine—combine to provide the most diverse program offerings of any campus within the University of California system. The campus is one of the nation's finest comprehensive research universities, committed to discovering new knowledge and solving complex societal problems.

The nature of many campus programs requires specialized land and building resources. The 5,200 acres of the main campus include not only core instruction and research buildings but also major structures for animals, greenhouses, and other academic support facilities, as well as agricultural land used for teaching and research. Because the Davis campus evolved within a rural setting where basic urban infrastructure was not available, the campus operates its own domestic and utility water systems, wastewater treatment plant, and solid waste landfill site in addition to utilities such as electrical systems and central steam and chilled water services. The campus also operates its own airport that serves the campus community and surrounding area.

During the period of rapid enrollment growth of the 1980s, a critical shortage of space to house new students strained the ability of the campus to address other important capital needs. During the 1990s, slower growth in



## **DAVIS CAMPUS INTRODUCTION (continued)**

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enrollment enabled available capital resources to be concentrated on the serious deficiencies left from the earlier period, particularly the need to upgrade campus infrastructure and support systems, correct safety and code deficiencies, and renew or replace old and obsolete buildings. However, the campus remains with significant space deficiencies, particularly in basic research, office, and teaching spaces.

During the current decade significant enrollment growth has again strained existing facilities, and additional space is needed. There is also a continuing need to adapt existing facilities to meet the ever-evolving needs of instruction and research functions and to maintain the vitality of the academic programs they support.

General campus enrollment grew by 27 percent in the period 1998-99 to 2002-03, and is projected to reach 28,750 FTE (including State-funded summer term enrollments) by 2008-09.

### **Long Range Development Plan**

The proposed 2003 Long Range Development Plan (LRDP) is the comprehensive policy and land use plan that will guide development of the Davis Campus through the horizon year 2015-16 in support of the teaching, research, and public service mission of the University. The proposed LRDP responds to anticipated growth in student enrollment, faculty and staff employment, and UC affiliated activities on the campus.

The new LRDP would support a campus three-quarter average headcount enrollment of 32,000 in 2015-16. The 2003 LRDP proposes general types of campus development and land uses to support this substantial campus population growth and enable expanded and new program initiatives. To accommodate this growth the plan provides flexibility for up to 2.5 million square feet of new facilities to meet the core mission. The provision for student, faculty, and staff housing is addressed through a newly proposed campus neighborhood. In response to increased needs for athletics and recreation space, the plan includes new recreation fields and facilities. A planned research park will provide space for a variety of private, public, and nonprofit organizations that have an affiliation with the campus. Finally, due to the significant expansion of academic, administrative, and housing programs, various support and ancillary facilities and services such as

## **DAVIS CAMPUS INTRODUCTION (continued)**

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parking and facilities services will need to be relocated from the core campus to more appropriate locations.

### **Campus Development**

It is clear that along with growth in the number of students and faculty will come the need for additional teaching, research and support facilities, administrative support space, auxiliary enterprise facilities, infrastructure expansion, and transportation and parking improvements. To meet the needs of the campus academic programs, key priorities for the State capital improvement budget will include the following types of new construction and facilities upgrade projects:

- **Expansion of Facilities:** Additional academic and support facilities will be needed to accommodate both existing deficiencies and projected increases in campus enrollment. Existing facilities also require improvement to address the needs of science laboratories and support space, classrooms, and computer laboratories that must be compatible with current programs and technologies.
- **Modernization of Existing Facilities:** A large portion of campus facilities constructed in the 1960s is now experiencing the results of age and heavy use. Many facilities require renewal and modernization. Capital funds have been targeted to upgrade these aged facilities and improve operational efficiency. Capital projects for the sciences will upgrade and replace unsuitable existing laboratory facilities currently being used by programs in the agricultural and environmental sciences, health sciences, biological sciences, and physical sciences. Capital projects for non-scientific academic programs and for professional and graduate schools are needed to modernize existing obsolete space.
- **Improvement of Health Sciences Facilities:** Major facilities improvements are needed to assure accreditation of the School of Veterinary Medicine. New and expanded facilities are needed to appropriately house current and planned veterinary medicine programs and correct the problem of physical separation that results from clinical facilities being remote from the teaching, research and central administration functions of the School. Major facilities improvements

## **DAVIS CAMPUS INTRODUCTION (continued)**

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also are needed for the School of Medicine. Upgraded facilities are needed for the teaching programs and the School has a significant shortage of research facilities.

- **Seismic Corrections:** The program to correct seismic deficiencies at the campus and at the UC Davis Medical Center is being completed.
- **Campus Infrastructure:** Campus infrastructure development has not kept pace with the addition of new and more demanding academic facilities. The electrical service, chilled water, and campus wastewater utility systems will require expansion to ensure that the campus infrastructure does not limit the goals of academic programs.

State funds have not been sufficient to meet the capital improvement needs of the campus. To provide the academic and support facilities required to meet the essential needs of the campus, non-State funds have been used to complement State funds in several projects of the major capital improvement program. Projects that have been funded in this manner include the Veterinary Medicine Laboratory Facility, the Plant and Environmental Sciences Replacement Facility, and the Robert Mondavi Institute for Wine and Food Science. Other major projects currently programmed that will be funded entirely through the use of non-State funds include the Genome and Biomedical Sciences Facility, the Veterinary Medicine Instructional Facility, the Veterinary Medicine Center for Companion Animal Health, the Tahoe Environmental Research Center, the Mathematical Sciences Building, and the Center for the Arts. The amount of available non-State funds is limited, however, constraining the ability to support enrollment increases and still maintain program quality without additional State funds.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**DAVIS CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
3	Robert Mondavi Institute for Wine and Food Science (950290)	P 900 P [900] G P [900] X W 600 W [900] G W [900] X C [18,200] G	C 32,135					33,635 [21,800]
10	Seismic Corrections -- Phase 4 (938724)	P 286 W 288	C 6,714					7,288
18	Campus Wastewater Treatment Plant Expansion Phase 1 (936077)		P 301 P [262] X W 129 W [112] X C 3,113 C [2,706] X					3,543 [3,080]
24	Life Sciences Alterations Phase 2 (932140)		P 183 W 149 C 3,174					3,506
26	Physical Sciences Expansion (932180)		P 2,235	W 2,400 C 41,442		E [1,196] X		46,077 [1,196]
	Chilled Water System Improvements Phase 6 (936078)			P [900] X W 900 C 11,954 C [4,336] X				12,854 [5,236]
	Electrical Improvements Phase 3 (936073)			P [400] X W 400 C 5,700 C [1,670] X				6,100 [2,070]
	Music Building (932160) (932160)			P 485 W 485	C 9,735			10,705
	Veterinary Medicine 3B (954140)			P 1,540 P [1,540] G	W 1,545 W [1,545] G	C 15,200 C [21,086] G	C 26,970 C [21,086] G	45,255 [45,257]
	Academic Building Improvements 1 (950070)				P 500 W 500 C 9,200			10,200
	Academic Building Improvements 2 (950340)				P 975 W 975	C 17,600		19,550
	Seismic Corrections -- Thurman Laboratory (954120)				P 28 GF W 21 GF C 314 GF			363

DAVIS CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2004-05  (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2005-06  (000s)	2006-07  (000s)	2007-08  (000s)	2008-09  (000s)	
	Electrical Improvements Phase 4 (936074)				P 250 W 250	C 2,200		2,700
	Engineering 4 (950360)					P 815 P [815] G	W 815 W [815] G	29,030 [9,640]
	Briggs Hall Safety Renovations					P 285	W 285	6,670
	Haring Hall Renovations						P 300	15,200
	Chilled Water System Improvements Phase 7						P 200	9,600
	<b>CAMPUS TOTAL</b>		<b>48,133 [3,080]</b>	<b>65,306 [8,846]</b>	<b>24,293 [1,545]</b>	<b>36,100 [23,097]</b>	<b>28,570 [21,901]</b>	

**DAVIS CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**3. Robert Mondavi Institute for  
Wine and Food Science ..... C \$ 32,135,000**

State funds are requested for construction of the Robert Mondavi Institute for Wine and Food Science academic facilities project. This project consists of instructional, research, office, and support space of approximately 75,000 asf to house the Department of Viticulture and Enology and the Department of Food Science in the new collaborative Institute. Campus and gift funds totaling \$21.8 million will supplement the State funds to construct the building. Additional campus and gift funds will fund construction of a related project for a teaching and research winery and a food and brewing science facility in support of this program. The new facilities will replace obsolete 50-year-old teaching and research space in several buildings. The vacated space will be evaluated for possible renovation to meet other non-laboratory campus space needs.

**10. Seismic Corrections – Phase 4..... C \$ 6,714,000**

State funds are requested for construction of seismic corrections for seven campus buildings rated seismically “Poor” or “Very Poor” that house State-supported programs. The buildings to be seismically upgraded in this project are the Academic Surge Building, Architects and Engineers Barn, Bainer Hall, Briggs Hall, Chemistry Building Lecture Hall, Veterinary Medicine Unit 2, and the Telecommunications Building. The project will provide modifications to bring the facilities to an acceptable level of safety during an earthquake.

## **DAVIS CAMPUS CAPITAL PROGRAM (continued)**

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### **18. Campus Wastewater Treatment**

**Plant Expansion Phase 1.....PWC \$ 3,543,000**  
**PWC \$ [3,080,000]X**

State funds are requested for preliminary plans, working drawings, and construction to expand the capacity of the Campus Wastewater Treatment Plant. This plant treats all the sanitary sewer effluent from the campus and has a current permitted capacity of 2.5 million gallons per day. Campus growth projections indicate that the plant will reach capacity in 2006-07. This project includes expansion of the modular screening system, an ultra violet disinfection channel, additional clarifiers, pumps, drying beds, and system improvements to optimize efficiency, reliability, and safety. The project also includes the addition of necessary supporting infrastructure.

### **24. Life Sciences Alterations Phase 2 .....PWC \$ 3,506,000**

State funds are requested for preliminary plans, working drawings, and construction for the Life Sciences Alterations Phase 2 project. After completion of the Sciences Laboratory Building project, approximately 9,200 asf of instructional laboratory space in Hutchison Hall will be released for reassignment to other urgent needs and will require alterations. This renovation will provide modern research laboratory, laboratory support, teaching support, and office space for programs in the agricultural and environmental sciences.

### **26. Physical Sciences Expansion .....PWC \$ 46,077,000** **E \$ [1,196,000]X**

State funding is requested for preliminary plans for the Physical Sciences Expansion project. The 51,250 asf project will be comprised of instructional laboratories and service, special class laboratories, research laboratories and service, research offices, and academic and departmental administrative offices and support space. The project will provide facilities for the Department of Geology, Chemistry, and Physics. The Physical Sciences Expansion will replace obsolete and inadequate teaching and research laboratories, consolidate their activities in a new facility, and release needed program expansion space to the Department of Physics.

**DAVIS CAMPUS CAPITAL PROGRAM (continued)**

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**Chilled Water System**

<b>Improvements Phase 6.....</b>	<b>P</b>	<b>\$</b>	<b>[900,000]X</b>
	<b>WC</b>	<b>\$</b>	<b>12,854,000</b>
	<b>C</b>	<b>\$</b>	<b>[4,336,000]X</b>

This project will expand the campus chilled water system to provide 4,500 tons of cooling capacity to serve new buildings and other improvements that are expected to be completed after 2006. The project will provide for construction of a thermal energy storage system identical to the system that was installed under the previous Phase 4 (State-funded) and Phase 5 (non-State-funded) expansion projects.

<b>Electrical Improvements Phase 3 .....</b>	<b>P</b>	<b>\$</b>	<b>[400,000]X</b>
	<b>WC</b>	<b>\$</b>	<b>6,100,000</b>
	<b>C</b>	<b>\$</b>	<b>[1,670,000]X</b>

Campus demand for electrical service is expected to exceed capacity by 2006-07. This project will provide a new 30 mVA substation in the west campus area that will serve the Health Sciences District as well as the central and west portions of the campus. The project includes the service feed from the point of connection and the distribution system from the new substation to the Health Sciences District switchgear.

<b>Music Building.....</b>	<b>PWC</b>	<b>\$</b>	<b>10,705,000</b>
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The Music Building project will provide modern music recital space for the Davis campus, advancing the campus commitment to the fine arts. The approximately 13,000 asf project will include a recital hall facility (6,000 asf), recital hall support space (2,000 asf), and instructional and administrative space for the Department of Music (5,000 asf).

<b>Veterinary Medicine 3B.....</b>	<b>PWC</b>	<b>\$</b>	<b>45,255,000</b>
	<b>PWC</b>	<b>\$</b>	<b>[45,257,000]G</b>

Veterinary Medicine 3B will continue the phased program of new construction and renovation planned to provide modern, state-of-the-art facilities needed to sustain the vitality of the School of Veterinary Medicine's teaching, research, and service programs. This project will provide new replacement research laboratory, laboratory support, office



## **DAVIS CAMPUS CAPITAL PROGRAM (continued)**

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space, and new clinical space at the site of the Veterinary Medical Teaching Hospital.

### **Academic Building**

**Improvements 1 .....PWC \$ 10,200,000**

This project will renovate obsolete and aging laboratory space in selected buildings for academic functions including laboratories, laboratory service space, and offices. Completion of the project would improve utilization of outdated space and bring laboratories up to current fire and life safety codes.

### **Academic Building**

**Improvements 2 .....PWC \$ 19,550,000**

This project will address deficiencies of the instruction and research space in selected buildings, improving utilization and addressing the deficiencies of age and program obsolescence.

### **Seismic Corrections –**

**Thurman Laboratory.....PWC \$ 363,000GF**

Seismic corrections for Thurman Laboratory (also known as the CAHFS Veterinary Diagnostic Laboratory, located on the Davis campus) are required to address life safety hazards. The structure is rated seismically “Poor”. This 26,497 asf facility houses diagnostic laboratories, laboratory support space, offices, and conference rooms that are managed by the campus for the California Department of Food and Agriculture. The project proposes to correct the seismic deficiencies and improve the lateral load resisting system of the building to achieve an acceptable level of life safety.

**Electrical Improvements Phase 4 .....PWC \$ 2,700,000**

Completion of the proposed Electrical Improvements Phase 3 project will provide the campus with sufficient electrical service capacity until the year 2010. To provide campus capacity beyond 2010, a fourth phase of electrical service expansion will be needed. The Electrical Improvements Phase 4 project will provide a 30 mVA expansion of campus substations.

**DAVIS CAMPUS CAPITAL PROGRAM (continued)**

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**Engineering 4 .....PWC \$ 29,030,000**  
**PWC \$ [9,640,000]G**

This project will provide approximately 50,000 asf of new teaching and research facilities for the College of Engineering that will include space for the Department of Chemical Engineering and Materials Science, the Environmental Engineering Program, and a portion of the research activities of the Department of Electrical and Computer Engineering. The additional space provided by the project will be needed to meet the space needs of the College of Engineering projected to the year 2010-11.

**Briggs Hall Safety Renovations .....PWC \$ 6,670,000**

The Briggs Hall Safety Renovations project consists of improvements to Briggs Hall to comply with health and safety code requirements. The work includes upgrades for occupancy separations, exit corridors, and the installation of liquid tight flooring throughout the building. The project will supplement a campus-funded project that is providing a fire alarm and sprinkler system for the entire facility.

**Haring Hall Renovations.....PWC \$ 15,200,000**

At the completion of Veterinary Medicine 3B, Haring Hall will be vacated by the School of Veterinary Medicine, and will be made available for other core campus uses. Renovation of the building will include upgrades to the building systems, fire and life safety improvements, and conversion of wet laboratory space to dry lab and office uses. After renovation, the building is expected to be occupied by the Department of Psychology where programs are in need of additional space.

**Chilled Water System**  
**Improvements Phase 7 .....PWC \$ 9,600,000**

This project will expand the campus chilled water system to provide cooling capacity to serve new buildings and other improvements that are expected to be completed after 2011.

## DAVIS CAMPUS OTHER CAPITAL NEEDS

### 1. Core Academic Facilities

**Veterinary Medicine:** The accreditation problems facing the School of Veterinary Medicine are a direct result of existing facilities that are old, insufficient in size, and that do not provide the quality of laboratories needed for today's teaching and research programs. Physical separation of teaching and research facilities from clinical facilities by more than one mile has resulted in operating inefficiencies and has had a direct impact on students' ability to get to classes in a timely manner. A phased program of new construction and renovation of existing facilities is planned to provide the School of Veterinary Medicine with modern state-of-the-art facilities needed to sustain the vitality of its instruction, research, and service programs and to restore full accreditation of the School. In addition to the Veterinary Medicine 3A project that is currently under construction and the proposed Veterinary Medicine 3B project, the School will need other research laboratories, office and support space planned in Veterinary Medicine 3C and several other campus-funded projects to accommodate growth of veterinary medicine programs.

**Agricultural and Environmental Sciences:** Agricultural and Environmental Sciences academic programs have become increasingly complex since the 1940s and 1950s when many of the buildings that house these programs were constructed. Today's science requires more sophisticated laboratory facilities and support space than are currently available in these buildings. Future capital projects are needed that will provide renovation of existing buildings and additional space to meet the requirements of expanded enrollment. After completion of the Robert Mondavi Institute for Wine and Food Science, renovations will be needed in space released in several buildings by the Department of Viticulture and Enology and the Department of Food Science. These projects will provide modern teaching and research facilities for the Departments of Wildlife, Fish and Conservation Biology, Environmental Horticulture, Environmental Science and Policy, Pomology, and the Graduate School of the Environment. Renovation of

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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Veihmeyer Hall also will be needed for the hydrology program of the Department of Land, Air and Water Resources.

New facilities, to replace obsolete existing spaces, accommodate program changes, and to provide for growth, will need to be constructed for several academic and support programs, with specialized needs such as dairy teaching and research in the agricultural and environmental sciences.

Agricultural research land near the central campus that has been used for the construction of new facilities will require replacement, including development of infrastructure, on outlying University property.

**Biological Sciences:** Programs in the biological sciences need technology-intensive facilities to support instruction and research activities. The biological sciences will need improvements to existing facilities in Storer Hall, Briggs Hall and Hutchison Hall to support current science directions and technology, and renovations and new space to accommodate programs at maturity. A new genomics laboratory facility is under construction that will support the campus Center for Functional Genomics and Bio-Informatics.

New facilities are needed to replace obsolete and insufficient space for related biological sciences and neuroscience programs. A new building is proposed to provide space for the Center for Neuroscience and improve animal facilities. In addition, there is currently a lack of space on the campus for multidisciplinary programs in biology, engineering, bio-informatics and biotechnology. New research facilities will be needed for these programs.

**Engineering:** Existing facilities do not meet the needs of the Department of Chemical Engineering and Materials Science, the environmental engineering program, and a portion of the research activities of the Department of Electrical and Computer Engineering. Approximately 50,000 asf of new facilities is needed for these programs. When this replacement space is built, released space in Bainer Hall will need renovation for use by the Departments of Biological and Agricultural Engineering and Mechanical and Aeronautical Engineering.

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Visual and Performing Arts:** The space deficiency in the fine arts and performing arts disciplines is limiting the effectiveness of instruction. New construction and modifications are needed to correct existing deficiencies and provide adequate teaching facilities, support space, and performing and gallery facilities. The Art Building and Art Annex will need to be remodeled to provide modern and more efficient facilities for the Art Department, and new space should be constructed to replace temporary facilities and provide much needed student and faculty studio space.

**Environmental Design:** The Environmental Design program will be joining with the Humanities, Arts and Cultural Studies Division, and replacement space for this program, which is currently housed in obsolete facilities, will be needed.

**Social Sciences:** After completion of Veterinary Medicine 3B, space in Haring Hall will be released to the campus and renovated for the Department of Psychology. Space in Young Hall that will be released by the Department of Psychology will need to be renovated to provide modern facilities needed to accommodate growth in the teaching and research programs of other academic programs in the social sciences.

**School of Medicine:** The School of Medicine occupies facilities in Sacramento at the UCD Medical Center and on the Davis campus. Major facilities improvements are needed in both locations because the existing facilities do not meet the needs of current teaching and research programs. New and replacement instructional facilities are needed to provide technologically-appropriate teaching facilities, including a state-of-the-art teaching auditorium, computer learning center, replacement teaching laboratories, small-group patient examination/instruction rooms, student support facilities, and a permanent library at the Medical Center.

The School of Medicine also continues to experience a significant shortage of high-quality research space. While the Genome and Biomedical Sciences Facility that is currently under construction will provide some replacement research space, there will continue to be a significant shortage of research laboratories and laboratory support space. The School needs additional research space, both in Davis and in Sacramento, to correct this deficiency. The Sacramento facilities

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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would accommodate the School's rapidly expanding clinical research programs. The Davis facilities would provide expansion space and replacement space for programs currently accommodated in maintenance-intensive and technologically-deficient temporary buildings.

**Graduate School of Management and School of Education:** New facilities needed to accommodate the Graduate School of Management will be constructed near the Hotel and Conference Center project planned for the campus. The subsequent release of space will trigger a need for renovation of existing Graduate School of Management facilities in Academic Office Building 4 for reassignment to the expanding School of Education.

**Libraries:** The Physical Sciences and Engineering Branch Library has reached full capacity and can add a print volume only if one is removed to another facility. To provide the additional facilities needed for the campus library system, a branch library for the sciences is needed to accommodate the collections of the life sciences as well as physical sciences and engineering. The existing Physical Sciences and Engineering Branch Library would then be remodeled for use by academic programs in the physical sciences.

**Animal Facilities:** Existing animal facilities require expansion and upgrading to meet current accreditation requirements and support the instruction and research programs of the campus. These include the California Regional Primate Research Center which supports AIDS and other research activities.

### **2. Administrative Support Facilities**

**Relocation of Service Units:** Many administrative support units have outgrown their existing building space and need improved facilities. These units occupy core campus building sites identified in the campus LRDP for academic program growth. To allocate central campus space to academic functions, service units such as the Central Garage, Operations and Maintenance, Environmental Health and Safety, Architects and Engineers, and a portion of Information Technology will be moved from the central core to expanded facilities in outlying campus areas.

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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### **3. Health System Needs**

Significant non-State resources have been expended in past years to make needed improvements to clinical, medical education, and research facilities. There is a continuing need for substantial additional investment to upgrade and replace outdated facilities, expand programs, and renew infrastructure.

The Medical Center Master Plan identifies work totaling more than \$300 million for these needs. The Davis campus has received \$120 million of State funds to address acute-care facility seismic deficiencies, and the medical center is implementing three SB 1953 seismic projects that include additional improvements funded from hospital reserves. Additional projects are identified in the Medical Center Master Plan for funding from hospital reserves and other non-State sources. These include rehabilitation and renewal, or demolition, of several existing facilities that are outdated and in poor condition; relocation of selected functions to space in Tower II that has been left unfinished in anticipation of these moves; construction of new facilities; and infrastructure improvements to support new and renovated facilities.

### **4. Auxiliary Enterprise Facilities**

**Campus Neighborhood:** The campus is proposing to construct a new residential Neighborhood to provide student, staff, and faculty housing in response to expected growth at the campus. The Neighborhood site is located on University owned land on the West Campus bordered by Russell Boulevard to the north, SR 113 to the east, and Hutchison Drive to the south. Adjacency to both the campus and the City of Davis provides for links between home, work, and school. At full build-out the Neighborhood could provide up to 475 faculty and staff housing units, and 1,080 student and mixed-use units. Additionally, the Neighborhood will provide for open space, recreational fields, a community education center and an elementary school. Transportation corridors that provide for pedestrian, bus, auto and bike uses will also be included.

**Student Housing:** Additional student housing will be needed as enrollment increases. Student housing projects will continue to be implemented primarily through the use of third-party agreements and

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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ground leases, an approach that has been successful on the Davis campus. Infill projects at the Tercero complex and the Greenhouse site are planned in addition to the development of the new Neighborhood.

**Research Park:** A Research Park is proposed to create a framework to accommodate and encourage the growing public, private and University research relationships at UC Davis. The Research Park will be developed with the primary goal of enhancing academic programs and enriching the University's research environment. The goals of this new Research Park include the encouragement of appropriate research partnerships between UC Davis and private, public or non-profit organizations; expansion of the range of educational internship, employment, and career opportunities near the campus; enhancement of campus recruitment; and promotion of regional economic development.

The Research Park will be developed on two parcels, one to the north and one south of Interstate 80. The north parcel development will be approximately 135,000 square feet; and the south parcel is expected to be approximately 345,000 square feet at build-out.

### **5. Transportation and Parking Improvements**

**Campus Road Improvements:** New roads, bike paths, and pedestrian paths are needed to safely handle the demands of a larger campus community and an increased number of pedestrians and vehicles. Plans include improvements to the campus loop road to provide direct access to the Buehler Alumni and Visitors Center and other new developments.

**Parking:** New parking facilities will be needed to accommodate the growing campus population and displacement of existing surface lot parking due to future building projects.

### **6. Corrections for Seismic Safety**

As noted above, the UCD Medical Center in Sacramento has substantial seismic deficiencies and must upgrade many of its facilities to meet the requirements of SB 1953. The Master Plan for the Medical Center includes a series of projects to structurally correct or replace



## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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seismically deficient space that does not meet SB 1953 requirements, as well as projects to renew or replace otherwise obsolete hospital facilities and infrastructure and support necessary program expansion.



# IRVINE CAMPUS

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## Capital Improvement Program

ESTABLISHED	1965
ENROLLMENT 2002-2003 (ACTUAL)	18,874 FTE undergraduates 2,679 graduate students 1,103 health science students
LIBRARY COLLECTION	2.3 million volumes
CAMPUS LAND AREA	1,543 acres
CAMPUS BUILDINGS	4.9 million assignable square feet
HOSPITAL AND CLINICS	646,160 assignable square feet

## **IRVINE CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Since its opening in 1965, the University of California, Irvine has attained national and international distinction in its faculty and academic programs. In addition to the 1995 award of two Nobel Prizes to founding faculty members in the School of Physical Sciences, UCI is one of the nation's fastest-rising universities, ranked well within the top 50 research universities according to various measures. The academic structure upon which these achievements are based focuses on fundamental areas of knowledge while at the same time providing for interdisciplinary and professional study. This structure is reflected in the organization of UCI academic units, which includes the Schools of the Arts, Biological Sciences, Engineering, Humanities, Information and Computer Science, Physical Sciences, Social Ecology, and Social Sciences; the Department of Education; the Graduate School of Management; and the College of Medicine.

The campus LRDP that was approved in 1989 defines a long-term enrollment target of 24,600 FTE general campus students and 1,050 FTE students in health sciences programs (26,050 headcount students). Current forecasts of student demand over the next decade far exceed earlier projections, however. The University has revised enrollment projections for all campuses to respond to this increased demand, and the Irvine campus is currently in the process of amending the LRDP to increase the target enrollment to approximately 30,000 FTE students.

UCI's general campus enrollment has increased approximately 40 percent in the last five years, from 15,455 FTE in 1997-98 to a total of 21,553 FTE in 2002-03. This has resulted in a serious short-fall in facility capacity, creating many problems for programs and the campus. By 2010-11, projections indicate a total of 28,940 FTE, a further increase of approximately 34 percent. This level of additional growth, even with planned increases in summer enrollments, will result in a wide variety of needs—not only for additional instruction and research space but also for new support facilities, housing, recreation, childcare, and campus administration. Just as urgent as the need for additional space is the need to expand the campus infrastructure

## **IRVINE CAMPUS INTRODUCTION (continued)**

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system to accommodate these new facilities. UCI's capital needs as now defined include the following:

- **New Space**

While all UCI programs are experiencing growth, emphasis in the near term is being placed on the sciences in response to workforce demands from California's high-technology industries. The first part of the currently proposed capital program addresses UCI's urgent need for more space for the sciences, including new space for Computer Science, Biological Sciences, and Engineering. Projects proposed later in the program address other high-priority needs around the campus, including additional space for Social Sciences, Social Ecology, Humanities, the Arts, and the Graduate School of Management. The last year of the five-year program includes another new science project that would provide space for Engineering and Physical Sciences. New general assignment classrooms also will be provided as part of some of these projects. In the longer term, further enrollment growth will continue to generate need for additional space throughout the campus.

- **Renewal and Replacement of Existing Facilities**

The facilities at the Irvine campus are beginning to show their age: 29 academic buildings on the main campus are at least 20 years old, and a number have deteriorated. Building systems have become inefficient or obsolete and more difficult to maintain, and some are unable to provide the level of service currently required. Moreover, academic and research programs are extremely dynamic, constantly evolving to stay at the forefront in a world of rapidly changing technology and increasing information requirements. Projects to renovate existing instruction, research, and academic support facilities will be required to accommodate new programs and technology as well as respond to building deterioration and access and other code-related deficiencies. The currently proposed capital program includes a classroom renovation project to correct code deficiencies and to provide adequate acoustics, lighting, and HVAC, as well as updated technology, in a number of existing general assignment classrooms. In addition, there is a continuing need to replace approximately 54,500 asf of inadequate trailer and other interim facilities used for instruction and research-related activities.

## **IRVINE CAMPUS INTRODUCTION (continued)**

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The functions of UCI's medical center also are negatively impacted by the age of its facilities. When the medical center was purchased in 1976, it was recognized that many of the structures on the site were severely deficient and would need to be replaced or upgraded. Since then, several new buildings and renovation projects have been completed, but major deficiencies still remain in clinical and support facilities.

- **Correction of Seismic Deficiencies**

Since 1985, seismic upgrade or replacement of 29 structures has been completed or is underway. Construction of the final State-funded seismic upgrade will commence in late 2003, and the seismically "Poor" main hospital building at the UCI Medical Center will be replaced using a combination of State funds and non-State funds. Non-State-supportable facilities, including other buildings at the medical center, are being upgraded as funding is identified.

- **Infrastructure**

As new buildings are constructed, campus electrical capacity will require expansion in several phases. The proposed State capital program includes two projects to address existing deficiencies in the system and to provide adequate electrical capacity through 2013. Expansion of campus cooling capacity also will be required, as will upgrade and extension of telecommunication services, sewers, storm drains, and roadways, both to remedy deficiencies in sections of the existing systems and to accommodate expansion into new areas such as the East Campus. Storm drain and sewer capacity studies have recently been completed, and detailed studies of other infrastructure components will be undertaken in the near future to better assess these needs and to update the campus utilities master plan that was completed a decade ago.

Given the current and projected rate of enrollment growth, State funds cannot meet all of the capital needs of the Irvine campus. As a partial response to these growth imperatives, the campus has supplemented the budgets of several State-funded projects, including Natural Sciences Unit 2, Computer Science Unit 3, Biological Sciences Unit 3,

## **IRVINE CAMPUS INTRODUCTION (continued)**

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and the currently proposed Engineering Unit 3, from non-State sources in order to provide additional space in a timely and cost-effective manner. In addition, non-State funds—including gifts and campus funds—have been used to construct new academic buildings for both the general campus and the health sciences. Even with these additional measures, however, the campus will be unable to provide all of the space needed to accommodate growth, and funding reductions will make it difficult to maintain this level of funding for capital from campus resources.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**IRVINE CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
1	Biological Sciences Unit 3 (991835)	P 2,350 W 1,242 C [4,000] LB	C 50,120		E 3,150 E [3,150] X			56,862 [7,150]
16	Engineering Unit 3 (990073)		P 2,218 W 1,222 C [8,591] LB	C 44,853	E 3,150	E [3,150] X		51,443 [11,741]
	Computer Science Unit 3 (992130)	P 1,779 W 954 C 29,089 C [12,798] LB		E 3,000 E [3,000] X				34,822 [15,798]
	Social and Behavioral Sciences Building			P 2,275 W 570	C 35,155		E 2,000 E [2,000] X	40,000 [2,000]
	Primary Electrical Improvements Step 3				P 65 W 65 C 1,400			1,530
	Humanities/Arts Building				P 2,360 W 600	C 36,540		41,500
	Classroom Renovations				P 135 W 125 C 2,400			2,660
	Instruction and Research Building					P 850 P [820] G W 460 W [440] G	C 19,510 C [18,740] G	20,820 [22,000]
	Primary Electrical Improvements Step 4						P 350 W 400 C 8,450	9,200
	Physical and Engineering Sciences						P 3,180 W 800	56,000
	<b>CAMPUS TOTAL</b>		<b>53,560 [8,591]</b>	<b>50,698</b>	<b>48,605 [3,150]</b>	<b>37,850 [4,410]</b>	<b>34,690 [20,740]</b>	



**IRVINE CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

- 1. Biological Sciences Unit 3..... CE \$ 53,270,000  
E \$ [3,150,000]X**

State funds are requested for construction of Biological Sciences Unit 3, a project that will provide a total of 79,400 asf of space for the School of Biological Sciences, a 400-seat lecture hall, and interim space for the School of Humanities until completion of a future new Humanities building. Rapid enrollment growth is engendering many needs around the campus. Even with completion of Natural Sciences Unit 1 and construction of Natural Sciences Unit 2, the School of Biological Sciences will not have adequate space to accommodate projected growth without additional facilities. Space will also be needed for general assignment lecture halls and for the School of Humanities to accommodate expected increases in enrollment and faculty. This project will meet these needs by providing approximately 58,400 asf for research laboratories, faculty and administrative office space, and animal space for the School of Biological Sciences; 5,600 asf to provide a new 400-seat general assignment lecture hall; and 15,400 asf to provide interim space for the School of Humanities.

- 16. Engineering Unit 3..... PWCE \$ 51,443,000  
C \$ [8,591,000]LB  
E \$ [3,150,000]X**

State funds are requested to prepare preliminary plans and working drawings for Engineering Unit 3, a project that will provide a total of 86,895 asf for the Henry Samueli School of Engineering, a general assignment lecture hall, and campus-funded surge space. The Irvine campus has made a commitment to increase enrollments in the sciences, particularly engineering and computer science, to provide the workers required by California's high-technology industries. As a result, Engineering enrollments are projected to increase 75 percent by 2009-10. While several existing projects, including Natural Sciences Unit 2, Rowland Hall Seismic Improvements, and Cal-(IT)2 will help

## **IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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accommodate some of this growth, more space is needed. Additional space also will be needed for general assignment classrooms and for academic units across the campus to accommodate expected increases in enrollment and faculty. To address these needs, this project will provide 68,795 asf of instructional and research laboratories, and academic and administrative space for the School of Engineering, 5,400 asf for a 350-seat lecture hall, and 12,700 asf of dry laboratory and office surge space to meet other high-priority campus needs.

**Computer Science Unit 3..... E \$ 3,000,000**  
**E \$ [3,000,000]X**

The Department of Information and Computer Science (ICS) has experienced significant growth in the last several years, and as a result, is experiencing shortages in all types of space, which will be exacerbated by projected enrollment growth. Additional space also will be needed for general assignment classrooms and for academic units across the campus to accommodate expected increases in enrollment and faculty. This project will construct two separate structures to meet these needs: a classroom building (13,340 asf) providing thirteen classrooms with a total of 780 seats, and a large instruction and research facility (74,060 asf). The main building will provide 48,060 asf for ICS and 26,000 asf of surge space to meet the highest priority needs of the campus.

### **Social and Behavioral Sciences**

**Building ..... PWCE \$ 40,000,000**  
**E \$ [2,000,000]X**

This project will help accommodate projected enrollment and program growth in the Schools of Social Ecology and Social Sciences. The last permanent space provided for these two Schools was the Social Sciences Unit 2 building, which was completed in 1996 and was planned to accommodate needs through the late-1990s. The School of Social Ecology already is experiencing space shortages, which have been partially addressed by campus-built surge space. As growth continues, existing space assignments for both Schools will no longer be adequate. This project will provide a total of approximately 75,000 asf

## **IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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to house class laboratories, faculty offices, research laboratories, and other requirements of the two Schools.

### **Primary Electrical Improvements**

**Step 3 ..... PWC \$ 1,530,000**

This project is needed to accommodate the projected campus electrical load through 2006. Most of the Irvine campus is supported by a 12,000-volt (12 kV) distribution system and a 66,000-volt/12 kV transformer and substation. The system is designed to allow dual feeds to transformers serving buildings or groups of buildings, so that one feeder provides electrical power, and the other is available to provide back-up support in the event of any system failure. As the campus has grown, the back-up feeders have been dedicated to new facilities to the extent that they can no longer reliably provide emergency back-up service. In addition, much of the electrical system cabling has exceeded its expected life and is deteriorating rapidly. Without a functioning dual feed system, any component failure could shut down a building's primary electrical system for hours or days. The proposed project will increase the electrical delivery capacity of selected 12 kV feeders in the main campus ductbank by modifying the connections of existing 12 kV feeder circuits; adding new 12 kV feeder conductors; and by adding a new run of underground ductbank with cabling.

**Humanities/Arts Building ..... PWCE \$ 41,500,000**

This project will help accommodate enrollment and program growth in the School of Humanities and the Claire Trevor School of the Arts. By 2010-11, enrollments in these two Schools are projected to increase by approximately 36 and 33 percent, respectively. In the same time period, the two Schools are expected to add more than 100 total additional faculty. Although new buildings for these programs were recently completed, those facilities addressed primarily existing need, including replacement of approximately 11,000 asf of trailer space. As a result, all space assigned to both Schools is fully occupied, and there is no space available to accommodate growth. This project will provide approximately 75,000 asf to house class laboratories, faculty offices, research and scholarly activity spaces, and other requirements of the School.

## **IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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### **Classroom Renovations .....PWC \$ 2,660,000**

The Irvine campus has recently initiated a phased plan to renovate and upgrade its existing inventory of general assignment classrooms. Many older rooms are in poor condition and do not have the technological capabilities required by modern instructional practices. This project will help remedy these deficiencies by addressing ADA, fire, and life safety issues; providing adequate acoustics, lighting, and HVAC; and installing technology such as video and computer projection, computers, and sound systems.

### **Instruction and Research Building .....PWC \$ 20,820,000 PWCE \$ [22,000,000]G**

The Graduate School of Management (GSM) is taking steps to strengthen and expand its undergraduate minor program by increasing the number of undergraduate courses the school offers, increasing the number of students eligible to participate in the minor, and adding faculty. In the last ten years, enrollment in the minor has increased over 150 percent. Projections for the School indicate further growth of approximately 34 percent by the end of the decade. Graduate students are projected to double in the same time period. Current space assignments for the School total approximately 41,000 asf and more than one third of this space is an interim assignment in a campus surge building. All of this space is fully occupied; to accommodate the projected growth, the School requires additional space. The proposed project will provide approximately 75,000 asf to provide adequate, consolidated space for the GSM in a separate area of the campus. In addition to providing growth space for GSM, the proposed project would provide replacement space for the School's existing assignments, thus releasing space in the Social Sciences Quadrangle for reassignment to other academic units. Spaces to be provided would include classrooms and other instructional facilities, research and graduate student space, and faculty and administrative office space.

## **IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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### **Primary Electrical Improvements**

**Step 4 ..... PWC \$ 9,200,000**

This project is needed in order to accommodate the campus's longer-term projected electrical load. The campus is projected to grow substantially through the next decade in response to increasing enrollments. Construction forecasts indicate that by 2006 all available capacity at the existing substation will be utilized, and by 2008 the campus electrical load is expected to exceed the substation's service capacity. The proposed project will help meet increased electrical demand by installing an additional 66 kV to 12 kV transformer; by implementing switchyard improvements and installing new 12 kV feeders and switchgear at the University Substation; and by installing additional underground ductbank extensions. These additions will provide substation and distribution system capacity to support new campus loads through 2013.

**Physical and Engineering Sciences..... PWCE \$ 56,000,000**

This project is required to provide additional space to accommodate long-term enrollment and program growth in the Schools of Physical Sciences and Engineering. Both Schools will be provided near-term growth space through scheduled capital projects; however, this space will not adequately accommodate all of the growth projected. The proposed project will provide a total of approximately 76,000 asf to accommodate teaching laboratories, research facilities, faculty and administrative offices, and other requirements of the Schools of Engineering and Physical Sciences.

## IRVINE CAMPUS OTHER CAPITAL NEEDS

### 1. Core Academic Facilities

**Engineering and Computer Science:** To meet California's demand for well-trained engineers and computer specialists, growth in the School of Engineering and the Department of Information and Computer Sciences over the next decade will be greater than that of the general campus. Even with projects currently included in the campus capital program, additional instruction and research facilities will be required to accommodate this rapid growth.

**Humanities and the Arts:** Both the Claire Trevor School of the Arts and the School of Humanities have grown substantially in the past two decades. While the recent completion of the Studio Building, the final phase of the Humanities/Fine Arts project, addresses some of the current space needs for the Arts, enrollment growth and development of new program areas such as Digital Arts and the interdisciplinary graduate program in Arts, Computation and Engineering over the next decade will result in increased requirements for instruction, research, and support space. A new Humanities/Arts facility is included in the current five-year program; however additional space will be needed to accommodate all anticipated growth in these two Schools.

**Social Sciences and Social Ecology:** Social Sciences Unit 2, completed in 1996, was planned to meet the needs of the Schools of Social Sciences and Social Ecology through the late 1990s. Since occupancy of the new building, the School of Social Sciences has absorbed a number of interdisciplinary programs such as Chicano/Latino Studies, Transportation Science, and History and Philosophy of Science that did not exist at the time Social Sciences Unit 2 was planned. Social Sciences and Social Ecology are expanding their programs and enrollment growth in both schools is expected at least to parallel the campus average. Although a new shared facility is included in the current five-year program, additional instruction, research, and office space will continue to be required to accommodate anticipated growth.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Biological and Physical Sciences:** The School of Biological Sciences has the second-highest number of majors on the campus, while the School of Physical Sciences has one of the largest workloads. Even with the completion of Natural Sciences Unit 2, which is currently in construction, and Biological Sciences Unit 3, which is in design, these units will continue to need additional space to keep pace with enrollment increases.

**Graduate School of Management and Department of Education:** Demand for the Graduate School of Management's programs is growing, and MBA programs are planned to expand significantly. The Department of Education is developing graduate programs at both the masters and doctoral levels that will focus on math and science education. Significant growth is projected in the teaching credential program over the next few years in response to California workforce needs. To support the program and enrollment growth anticipated by both of these academic units, additional facilities would be required beyond those needs addressed in the current five-year program.

**Library:** The rapid advance of information and educational technology, coupled with expansion of enrollment and academic programs defined in the LRDP, require continued improvement and expansion of the information systems and library facilities of the campus. The capacity of the Main Library, which houses the entire campus collections in the fields of social sciences, humanities, and the arts, is of particular concern. A project to install compact shelving in the basement of the Main Library was recently completed; however, the additional capacity provided by this shelving will provide only short-term relief for space problems. In the long term, an addition to the library will be needed to accommodate general book stacks, student and faculty use facilities, library staff work space, and to complete technological modernization work associated with advances in library information access.

**Health Sciences Research:** Additional specialized research space is required for health sciences programs. In an effort to facilitate collaborative research between basic and clinical research in human diseases, space is needed to support interdisciplinary studies related to areas such as cardiopulmonary medicine and biomedical engineering. The College of Medicine envisions the ultimate construction of a

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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complex of facilities in the Health Sciences Quad accommodating interdisciplinary research.

**Instruction and Research Space in Trailers:** The campus has a continuing need to replace approximately 54,500 asf of inadequate, interim and trailer facilities, some of which have been in place since 1966. As new building projects are added to the capital program, they will include replacement space for activities currently housed in trailers and other temporary facilities.

### **2. Administrative and Support Facilities**

**North Campus:** In the future, the campus intends to develop the North Campus with facilities for research, office, and residential uses. This will require relocation of campus departments currently on that site, including Facilities Management, Garage and Fleet Services, Printing and Reprographics, Materiel Management, and Mail Division. Appropriate facilities for these units will need to be constructed on the main campus.

**Recreation, Athletics and Student Services:** To accommodate the needs of current and future enrollment, the campus plans to improve and expand existing athletic and recreation facilities, including facilities for baseball, aquatics, track, soccer, tennis, and strength and conditioning. The campus is also considering expansion of the Bren Events Center, a multipurpose facility that accommodates sporting and other events, to provide more seating capacity, additional support spaces, and new facilities for intercollegiate athletics.

Other support facilities also are envisioned, including additional space for student services; child care services for faculty, staff and students; student health services; student center activities; and international student activities.

**Campus Administration:** A number of administrative units have been moved to off-campus leased space in recent years in order to accommodate growth of academic units on campus. Currently the campus is leasing nearly 60,000 ASF to accommodate these activities. Construction of new office facilities is required to provide adequate space on campus for administrative functions.



## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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### **3. Health Sciences Clinical Facilities**

Improvements to clinical facilities in the Health Sciences are needed in response to evolving needs in patient care, instruction and research programs, and life safety requirements. In addition to the SB 1953-mandated replacement hospital that is currently in design, renovations to selected inpatient and outpatient facilities at the UCI Medical Center will be required to enhance patient care and service and to upgrade them to current health and safety requirements.

Additional clinical space will be needed on the main campus to support College of Medicine research activities in the areas of cardiopulmonary diseases, cancer, organ transplantation, and human genetics.

### **4. Auxiliary Enterprise Facilities**

In order to achieve the LRDP goal of providing on-campus housing for 43 percent of the total campus enrollment, additional residence halls and apartments will be required as growth occurs. Additional food facilities and retail facilities such as bookstores will be required to support enrollment growth as well.

### **5. Utilities, Site Development, Transportation, and Parking Improvements**

To support current needs, anticipated enrollment growth, and program development, several utility systems and the campus roadway system require expansion. These infrastructure improvements are vital to UCI's continued ability to grow.

**Chilled and High Temperature Water:** Most of the major buildings on campus rely on chilled and high-temperature water supplied from the Central Plant for general air-conditioning, research process control, computer cooling, and other types of environmental requirements. To meet continuing increases in campus demand, cooling capacity will be expanded in phases and may include the addition of a satellite central plant facility.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Domestic Water:** An additional source of high-pressure domestic water is needed to serve the higher elevations of the campus, such as the University Hills housing development, where it is becoming more difficult to maintain adequate water service.

**Reclaimed Water:** The east portion of the campus currently uses the potable domestic water supply for irrigation. New reclaimed water irrigation lines, connected to the Irvine Ranch Water District pipeline under Palo Verde Road near East Peltason Drive, would be constructed to supply irrigation to individual housing projects in the East Campus. In addition, upgrades to the existing reclaimed water system also are needed to maximize the use of the current reclaimed water supply, add significant capacity to the existing on-site distribution system, and reduce consumption of more expensive domestic water.

**Sanitary Sewer:** Monitoring has confirmed that several sections of the existing backbone sewer system are deficient and require upgrade to serve current demand and future enrollment growth. The campus is currently in the process of developing a phased approach to including these upgrades in future capital programs. In the long term, the system will also require three extensions (one for the West Campus collector and two for the Central Campus collectors). Development of the East Campus will require a supplemental parallel line to provide additional capacity and to prevent pressure flow problems in the line.

**Storm Drains:** The campus will require substantial improvements to the existing storm drainage system to serve development identified in the LRDP. In addition to improvements required to increase the capacity of deficient sections of the system in the central academic core and new facilities to serve the East Campus and other outer campus areas, this work will include significant campuswide improvements required to meet new State and federal storm water regulations that became effective in March 2003.

**Natural Gas:** To accommodate future campus growth, the natural gas system will be expanded by creating a high-pressure loop starting near California Avenue and University Drive, and terminating near Campus Drive and East Peltason Drive.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**UCI Medical Center Electrical and Site Utilities:** Upgrades to existing electrical and heating and cooling systems are required to achieve reliable, energy-efficient services and to provide for anticipated growth in existing and new facilities.

**Electrical and Telecommunication Services:** To develop the southern portion of the campus, electrical and telecommunication services must be extended. As new areas are developed, equipment will be needed to distribute power from the 66/12 kV substation. Telecommunication services should be extended from the existing central plant facility around the outer campus loop.

**Campus Roadways:** To accommodate increased traffic demand, the campus roadway system must be expanded. The most critical need is the widening of Peltason Drive, the primary loop roadway serving the campus. It is currently at or near maximum capacity and must be widened from two to four lanes to accommodate future enrollment growth. In addition to the Peltason loop, the existing roadway system includes five radial roads linking to adjacent off-campus roads. Expansion of this system involves the addition of a California Avenue link between Gabrielino Drive and Adobe Circle South, construction of the Southern Radial between Peltason Drive and Bonita Canyon Drive, and the extension of the Arroyo Drive loop to California Avenue, including a connection to Culver Drive. These improvements will complete the outer campus roadway system and provide additional access to the entire campus. Projects aimed at improving bicycle and pedestrian traffic, including grade-separated crossings and off-street bikeways, also will be needed as the campus grows.

**Campus Parking:** Existing physical constraints and academic space needs limit the amount of land within the central campus that can be dedicated to parking. This premium on land precludes the use of extensive surface parking lots in the central core. The long-range plan for parking is to construct several parking structures strategically located around the perimeter of the campus central core.

**Medical Center Parking:** Adequate on-site parking for patients, visitors, faculty, and staff remains an important objective at the UCI Medical Center. Additional parking facilities, associated roadway

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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improvements, and removal of older buildings will be required to accommodate future demand.

### **6. Code and Safety Corrections**

A 1989 study identified asbestos in several campus buildings. The most hazardous situations have been addressed, and other corrections will be carried out during renovation projects or as other funding opportunities occur.

In addition to code-required corrections, there are a number of safety issues that also need to be addressed, including installing fire sprinklers in selected science buildings; replacing deficient fire alarm systems in six buildings; and upgrading exterior lighting along major pedestrian ways where illumination levels are below the campus standard. The campus is currently working to identify funding sources to address the most urgent of these safety issues.

### **7. Corrections for Seismic Safety**

All State-supportable buildings known to be life safety hazards have been, or are in the process of being, seismically upgraded. Several additional secondary structures at the medical center will require seismic correction.

# LOS ANGELES CAMPUS

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## Capital Improvement Program

ESTABLISHED	1919
ENROLLMENT 2002-2003 (ACTUAL)	25,089 FTE undergraduates 7,679 graduate students 3,874 health science students
LIBRARY COLLECTION	7.6 million volumes
CAMPUS LAND AREA	411 acres
CAMPUS BUILDINGS	10.1 million assignable square feet
HOSPITAL AND CLINICS	1.7 million assignable square feet

## **LOS ANGELES CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

The Westwood campus opened its doors with a Teacher's College and the College of Letters and Science occupying the first four permanent campus buildings in the undeveloped rolling hills of Bel Air in 1929. The master's degree was authorized in 1933, and the doctorate followed in 1936. In the intervening years, the University of California, Los Angeles campus has continued to expand and evolve in order to meet the diverse needs of the students, faculty, and staff as well as the neighboring community, the region, and the State.

The formal academic structure of UCLA includes the College of Letters and Science with five divisions; seven general campus professional schools; and four health science professional schools. In addition, there are 37 formally established interdepartmental programs, 24 organized research units, and many other less-structured interdisciplinary efforts.

Campus facilities require renovation and renewal as obsolescence and normal aging of building systems occur. Disciplines with sophisticated research requirements, such as those found in the physical and life sciences, have increasing difficulty in supporting instruction and research activities in inadequate and inflexible facilities. Renewal and upgrade of existing facilities is a continuing need.

An aggressive program of seismic structural corrections has been underway since the mid-1980s, through which most of the general campus buildings rated seismically "Poor" or "Very Poor" have been seismically upgraded or are in the process of being upgraded. The campus State-funded five-year capital program is dominated by projects to address the remainder. The need for renewal of older buildings was accentuated when the January 1994 Northridge Earthquake caused significant damage to a number of campus structures. Campus work with the Federal Emergency Management Agency and with State emergency disaster recovery efforts to provide corrections as quickly as possible to damaged buildings has been largely successful, and the seismic correction of core campus buildings now nearing completion, with detailed planning in process on the remaining buildings. Work is underway

## **LOS ANGELES CAMPUS INTRODUCTION (continued)**

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on two replacement hospitals and other replacement facilities for the Center for the Health Sciences (CHS), and further projects to complete seismic corrections and mitigations at CHS are in the planning stages. Completing these final seismic corrections to all State-supported structures remains a high priority for the campus.

### **Campus Enrollment**

The 2002 LRDP sets forth a 2010-11 overall campus enrollment projection of 37,829 FTE for the Los Angeles campus (general campus and health science students enrolled in both regular and summer sessions on- and off-campus). This projection accommodates growth of general campus enrollment to 34,110 FTE by 2010-11 to address University-wide enrollment projections.

Student enrollment growth also will result in a need for additional faculty space, housing, and parking. Academic and ancillary units would likely require facility improvements over time due to (1) deficiencies in the amount and type of existing space, (2) technological or functional obsolescence of existing facilities, and (3) modernization of the instruction and research programs.

### **Campus Development**

To accommodate the diverse interests of the UCLA/Westwood community—including students, faculty, staff, visitors, and others—campus planning will continue to require careful consideration to use increasingly scarce resources wisely, while pursuing the University’s academic and community service mission. Resource management is expanding to include not only fiscal concerns but land resource management (campus building sites, LRDP/EIR constraints and opportunities, etc.) and existing facilities (enhanced utilization, reallocation, etc.). Future facilities requirements may be met through alternative means such as intensification of use, reallocation, and selective renovation of existing facilities. New facilities will be considered when this approach is inadequate or not cost-effective.

To address continuing facility needs, the campus has found that it must pursue a process similar to urban renewal: rehabilitation and upgrade of existing facilities and, where appropriate, the development of new facilities to accommodate specific program or renovation staging requirements.

## **LOS ANGELES CAMPUS INTRODUCTION (continued)**

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Technological innovations and pedagogical advances often require facility renovation or replacement for their implementation.

The campus continues to be committed to long-term comprehensive planning efforts that focus on program priorities and identify projects that address the most critical campus capital needs. The needs will remain significant and diverse. The campus State-funded capital program for the next few years will continue to be focused on seismic corrections, both for the main campus and for portions of the Center for Health Sciences. Other resources will be used to address most needs for general upgrades, renewals, and new construction.

**Seismic Deficiency Corrections:** The campus has a continued commitment to correct all buildings with “Very Poor” and “Poor” seismic ratings while minimizing the negative impacts of extensive and disruptive construction activities on the academic program and general campus, and to complete damage repairs needed after the Northridge Earthquake. These include the few remaining general campus buildings, replacement of the Westwood Hospital, repair of the CHS, and repair and partial replacement of the Santa Monica/Orthopaedic Hospital.

**Campus Infrastructure Renewal and Expansion:** Renewal and expansion of primary utilities and distribution systems and of fire alarm and sprinkler systems remain a requirement for the campus.

**Building Renewal:** Upgrade of obsolete building systems such as heating, ventilation and air-conditioning, water and power distribution systems, and other renovations and improvements to support the programs in existing facilities are needed.

### **Completion of “in-progress” Academic Facilities Improvement**

**Master Plans:** The campus maintains a commitment to the implementation of space plans which were initiated in the early 1980s in the Physical and Life Sciences divisions of the College of Letters and Science, and the School of Engineering and Applied Science.

**Academic Program Facilities Requirements:** The campus will continue to identify needed capital improvement projects to support program development for the general campus, professional schools, health sciences, and fine arts.



## **LOS ANGELES CAMPUS INTRODUCTION (continued)**

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The campus capital program development strategies will be directed first to completion of the seismic life safety program, but in the long term there will be a continued emphasis on (1) a balanced capital program proposal—life safety corrections, primary and building infrastructure renewal and upgrades, and academic program improvements, (2) continued use of private funds to supplement limited State funds, and (3) continued urban renewal of the campus.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**LOS ANGELES CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
9	Geology Seismic Correction (948796)	P 521 W 457	C 9,489					10,467
21	Campbell Hall Seismic Correction (948783)	P 293 W 241	C 5,084					5,618
23	CHS South Tower Seismic Renovation Phase A (948717)	P [5,700] LB	W 2,500 W [1,700] LB	C 44,800 C [46,215] LB				47,300 [53,615]
28	Life Sciences Replacement Building (943500)		P 2,200 P [1,003] LB	W 1,800 W [617] LB	C 33,000 C [17,376] LB E [995] X	W 2,073	C 27,660 E [305] X	66,733 [20,296]
31	GSEIS Seismic Correction (948793)		P 116 W 111 C 2,453					2,680
	CHS South Tower Seismic Renovation Phase B (948717)			P 1,500	W 1,500 W [900] LB	C 27,200 C [18,775] LB		30,200 [19,675]
	CHS South Tower Seismic Renovation Phase C (948717)					P 1,500	W 1,500 W [500] LB	32,000 [13,275]
	Clark Library Seismic Correction (948716)						P 306 W 306 C 2,448 C [3,060] X	3,060 [3,060]
	<b>CAMPUS TOTAL</b>		<b>21,953</b> <b>[2,703]</b>	<b>48,100</b> <b>[46,832]</b>	<b>34,500</b> <b>[19,271]</b>	<b>30,773</b> <b>[18,775]</b>	<b>32,220</b> <b>[805]</b>	

**LOS ANGELES CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**9. Geology Seismic Correction ..... C \$ 9,489,000**

State funds are requested for construction for seismic corrections to three of the nine buildings in the Geology-Young Hall complex that are rated seismically “Poor” (DGS level V): the Geology Building, the Chemistry and Geology Building, and the Geophysics Building. These facilities, comprising 106,946 asf, were built between 1952 and 1963. Seismic deficiencies include lack of capacity in the shear walls, lack of longitudinal interior frames to resist lateral loads, and brittle details used in the reinforced concrete bracing components. The buildings primarily house the departments of Earth and Space Sciences, the Institute for Geophysics, the Geology library, and general assignment classrooms. Portions of the departments of Physiological Sciences and Chemistry are also located in the complex. The project will upgrade the lateral force-resisting capacity of the buildings to “Good” and address fire, life safety, and accessibility code deficiencies.

**21. Campbell Hall Seismic Correction..... C \$ 5,084,000**

State funds are requested for construction for seismic corrections to Campbell Hall, a 32,431 asf facility constructed in 1954 with a seismic rating of “Poor” (DGS level V). Seismic deficiencies include a lack of shear-wall capacity and brittle details used in the reinforced concrete bracing components. The building primarily houses the department of Linguistics and general assignment classrooms, as well as the American Indian and Asian American Organized Research Units, Office of Instructional Development, and Academic Advancement Program. The project will strengthen the lateral force-resisting system of the building to achieve a “Good” seismic rating and will address fire, life safety, and accessibility code deficiencies.

**LOS ANGELES CAMPUS CAPITAL PROGRAM (continued)**

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- 23. CHS South Tower Seismic Renovation Phase A.....WC \$ 47,300,000  
WC \$ [47,915,000]LB**

State funds are requested for working drawings to seismically upgrade the 427,500 gsf Center for Health Sciences (CHS) South Tower which has a seismic rating of “Very Poor”. This project is the first in a phased series of projects that will upgrade the CHS South Tower to house School of Medicine and School of Public Health wet laboratory functions following the relocation of hospital functions to UCLA’s new Westwood and Santa Monica Hospitals under the CHS Facilities Reconstruction Plan. Phase A will upgrade the building to achieve a seismic rating of “Good”. The work will also include the installation of new building systems infrastructure, fire and life safety systems, hazardous material abatement, and correction of accessibility code deficiencies.

- 28. Life Sciences Replacement Building.....PWC \$ 66,733,000  
PWC \$ [18,996,000]LB  
E \$ [1,300,000]X**

State funds are requested for preliminary plans to construct a replacement building for academic programs occupying non-code-compliant and obsolete space in the Life Sciences Building. The Life Sciences Building was constructed in phases between 1954 and 1964, has never undergone a major renovation, renewal or upgrade, and is considered a high-risk scientific research environment. The replacement building would accommodate the portions of the Department of Molecular, Cell and Developmental Biology, the Department of Physiological Science, and the Department of Organismic Biology, Ecology and Evolution on a nearby site. The 87,238 asf replacement building would be constructed in two phases: Phase 1 would provide a 57,248 asf building to accommodate research laboratory, offices, special class laboratories, special collections and related support space. Phase 2 would provide a 29,990 asf addition to Phase 1 that would accommodate the remainder of the laboratories, offices and special class laboratories now in the Life Sciences Building.

**LOS ANGELES CAMPUS CAPITAL PROGRAM (continued)**

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**31. GSEIS Seismic Correction .....PWC \$ 2,680,000**

State funds are requested for preliminary plans, working drawings and construction for seismic corrections to the Graduate School of Education and Information Sciences (GSEIS) Building that has a seismic rating of “Poor” (DGS level V). The three-story modular steel frame structure is vulnerable to structural damage and possible collapse due to lack of shear strength resulting in excessive lateral movement; inadequate column design; and inadequate connections between the pre-fabricated structural modules. The correction work will involve seismic strengthening of the structure to achieve a rating of “Good”.

**CHS South Tower Seismic  
Renovation Phase B.....PWC \$ 30,200,000  
WC \$ [19,675,000]LB**

This project is the second in a phased series of projects to upgrade the existing CHS South Tower to house School of Medicine and School of Public Health wet laboratory functions following the completion of the Phase A renovation project. This Phase B project would renovate 97,215 asf on floors 5 through 10. The project would construct wet laboratories, laboratory support and office space. Interior improvements would include installation of mechanical, electrical and plumbing systems, partitions, finishes, fixtures and casework.

**CHS South Tower Seismic  
Renovation Phase C.....PWC \$ 32,000,000  
WC \$ [13,275,000]LB**

This project is the third in a phased series of projects to upgrade the existing CHS South Tower to house School of Medicine and School of Public Health wet laboratory functions following completion of the Phase B renovation project. This Phase C project would renovate 88,791 asf on floors 1 through 4. The project would construct wet laboratories, laboratory support, office and instructional space. Interior improvements would include installation of mechanical, electrical and plumbing systems, partitions, finishes, fixtures and casework.

**LOS ANGELES CAMPUS CAPITAL PROGRAM (continued)**

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**Clark Library Seismic Correction.....PWC \$ 3,060,000**  
**C \$ [3,060,000]X**

Clark Library, built circa 1926, is a 12,220 asf structure rated seismically “Poor” (DGS level V). This off-campus building is constructed of reinforced concrete and unreinforced brick masonry. The project will upgrade the lateral force resisting capacity of the building to a seismic rating of “Good” and address fire, life safety, and accessibility code deficiencies.

## LOS ANGELES CAMPUS OTHER CAPITAL NEEDS

Due to the age of the Los Angeles campus and the limited number of new building sites available, there will continue to be a significant emphasis on building renewal after completion of the seismic safety corrections program. The renewal effort will focus on appropriate use and selective renovation of existing facilities. New construction, however, also will be required to meet programmatic and technical requirements which cannot be accommodated in existing facilities.

The following information reflects critical immediate and long-term campus capital needs beyond those already presented in the preceding description of the State-funded five-year capital program. However, the order of the list is not reflective of campus priorities nor of specific fund sources.

### 1. Core Academic Facilities

**College of Letters and Science:** This College is the oldest and largest academic unit on campus, occupying approximately 85 percent of core academic space. It offers instruction in 40 departments and 22 interdepartmental programs. Programs in the College are organized into four academic divisions under the overall direction of a Provost.

**Humanities:** This division includes English, Classics, Linguistics, Philosophy, Art History, Musicology, and Speech along with foreign language departments. There is a variety of needs for renewal and reallocation of facilities involving instruction, research, and academic support functions. Consolidation of these areas into a cohesive whole is a high priority for the division.

**Life Sciences:** This division includes Microbiology, Immunology and Molecular Genetics; Molecular, Cell and Developmental Biology; Biology; Physiological Science; and Psychology. Appropriate instruction and research space are needed to continue the development of comprehensive programs in cellular, molecular and developmental aspects of neurobiology, biotechnology, and plant sciences. The undergraduate curriculum also is changing rapidly to provide greater exposure to contemporary laboratory technology. Obsolete and

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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inadequate facilities will be addressed through continued renovation of existing space and the construction of new space. The proposed Life Sciences Replacement Building project provides contemporary instruction and research facilities for portions of the Departments of Molecular, Cell and Developmental Biology, Biology and Physiological Science. Other divisional program needs remain.

**Physical Sciences:** This division includes Physics/Astronomy, Atmospheric Sciences, Chemistry and Biochemistry, Earth and Space Sciences, and Mathematics and Statistics. Particular attention is being given to strengthening instruction of the core physical sciences of chemistry, mathematics, and physics. The division must continue to update appropriate facilities to integrate recent advances in technology into the instructional program.

**Social Sciences:** As the largest component of the College of Letters and Science, this division includes Anthropology, Economics, Geography, History, Political Science, and Sociology. These programs are continually evolving and require facilities appropriate to their needs. A variety of needs for renewal, reallocation, and additional space exist for instructional and research space.

**The Arts:** Two professional schools—the School of the Arts and Architecture and the School of Theater, Film and Television—add a professional orientation to graduate education in the arts and the opportunity to relate the academic and scholarly aspects of the arts to the creative, performance, and applied aspects. Capital needs include program-related renovations and the addition of studio and performance spaces.

- **School of the Arts and Architecture:** The School of the Arts and Architecture includes the Departments of World Arts and Cultures, Art, Design/Media Arts, Music, Ethnomusicology, Architecture and Urban Design. The School has identified a need for practice and rehearsal studios, recording studios, and faculty art studios; for replacement and expansion of art and design space; and for renovation of instructional, office, administrative, and support space. The Broad Art Center and Kaufman Hall



## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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projects will provide renovated space for the Departments of World Arts and Cultures, Art and Design/Media Arts. Program needs for the other departments remain.

- **Theater, Film and Television:** The School of Theater, Film and Television includes the Department of Film, Television, and Digital Media, and the Department of Theater. The School has identified a need for space appropriate for instruction in the technology of theater, film, and television. Outdated and unsafe facilities require upgrades.
- **Cultural Facilities:** Cultural facilities serve the UCLA academic programs in applied and performing arts, as well as the cultural life of the campus and community. With one of the largest university-based public performing arts programs in the nation, UCLA provides an important public service and contributes to Los Angeles' growing recognition as a major cultural center. The campus continues to seek ways to expand its performing arts programs and make them more accessible to the public.

Arts programs also are maintained in off-campus galleries, theaters, and film and television archives. A need for a storage facility for historic but fire-prone "safety film" has been identified.

**General Campus Professional Schools:** The following general campus professional schools have long-term unmet capital needs.

- **Graduate School of Education and Information Sciences:** Established in 1939, the Graduate School of Education and Information Sciences had its roots in the State Normal School with the primary mission of training teachers. With today's strong faculty and research programs, the mission of the School is to advance scholarship and train scholars, influence educational practice and policy, train practitioners, and develop model training programs. The School has identified needs for expanded teacher training facilities and program support space.

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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- **School of Engineering and Applied Science:** The six departments within the School of Engineering and Applied Science serve as centers of activity for study and research in engineering disciplines. The School provides continuing education to practicing engineers to keep them abreast of changes in their fields. The School has identified an ongoing need to update obsolete and inadequate facilities to keep pace with technological Change. Instruction and research space in the obsolete and seismically hazardous Engineering 1 building is being replaced, but other needs remain.

### **Health Sciences**

- **School of Dentistry:** The School has implemented an innovative vertical-tier curriculum which provides continuous patient care with the flexibility for students to pursue research fellowships, interdepartmental programs, or state-of-the-art curricular offerings in geriatric dentistry, pain and anxiety control, aesthetic dentistry, implant prosthodontics, and computer technology. Replacement of portions of obsolete and inadequate space will be needed to support program changes.
- **School of Medicine:** The School of Medicine will continue to place high priority on medical education and on the preparation of students for careers in biomedical research. Clinical training will be provided increasingly in ambulatory settings and more teaching will be done in smaller groups. These and other developments will be more demanding of faculty time, space, and operating resources.

Other high priorities of the School include psychiatry, medical genetics, and the Center for Medical Education. The faculty also is mindful of the need to respond quickly to rapid and often unforeseeable medical developments such as the AIDS epidemic, magnetic resonance imaging, positron emission tomography, and organ transplantation.

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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Reconstruction of the Center for the Health Sciences to address seismic hazards will replace or upgrade the obsolete and constrained facilities now used by these programs.

**Libraries and the Organization of Information:** Libraries are an essential part of the academic fabric of the University as agents for information service to the campus, the University, and the community. Their challenge for the coming decades will be to stay at the forefront of technological innovation in information management to anticipate and respond to their users' needs. The UCLA Library will continue to develop collections of traditional sources of information and, at the same time, will greatly increase access to new electronic sources of information. Consolidating branch units on campus and adding nontraditional locations for information access, such as residence halls, will release funding for collection growth as well as new technologies. Plans for collection growth will consider additional space to house the collection. Consolidating branch units will require new solutions to support collection growth, new technologies, and adequate staff and user space.

**Classrooms:** While the campus has established a program for normal classroom maintenance and improvement, a major effort is required to address age and wear in building utility systems, to provide adequate audio-visual and acoustic systems serving classrooms, to meet disabled access requirements, and to adapt classrooms to modern teaching technologies. The classroom improvements will be accomplished in the context of ongoing major and minor capital renewal and improvement projects.

### **2. Administrative and Support Facilities**

**Student Affairs:** Student Affairs provides an array of programs, services, and educational experiences that promote the academic success of UCLA students and enhance the quality of campus life. Over the past decade, the physical inadequacy and dispersion of student-serving facilities in many buildings throughout the campus and in Westwood have continued to be identified as serious constraints to the effective delivery of services. Several facility space deficiencies have

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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been addressed, including a new student health facility and consolidation of some student services.

### **3. Health Sciences Clinical Facilities**

**Medical Center:** The UCLA Medical Center, a leader in medical education, research, and service, has seen a fourfold increase in the types of analytical procedures performed in its clinical laboratories and the development of entirely new areas of patient care since it opened in 1955.

The Medical Center sustained substantial damage in the 1994 Northridge Earthquake. The campus has developed a multiphase reconstruction plan that is now being implemented including the Westwood and Santa Monica replacement hospitals, Health Sciences Seismic Replacement Buildings 1 and 2 for instructional and research space, renovation of other portions of the existing medical center for instructional and research space, and demolition and replacement of damaged parts of the Center for the Health Sciences (CHS) for which repair and/or seismic retrofit is infeasible.

### **4. Auxiliary Enterprise Facilities**

**Housing:** Since 1931 UCLA has provided housing accommodations for students. The cost of real estate in Los Angeles, consistently among the highest in the country, increases pressure on the University to provide affordable and accessible housing for students, faculty, and staff. In 1990, the campus adopted a goal for the year 2005 of housing 50 percent of the student body either in University-owned housing or in private housing within a mile of campus. Upon completion of construction of additional housing in the Southwest campus, this goal will be met. Increased enrollments being considered by UCLA through 2010-11 have resulted in the setting of new housing goals for the campus to address student housing demand through 2010. Construction is underway for additional on-campus housing in the Northwest campus.

### **5. Utilities, Fire Safety**

**Electrical Distribution System:** The campus is nearing completion of a phased program of projects to upgrade its old 4.8kV electrical distribution system, which is between 35 and 50 years old, obsolete, and at its maximum load-carrying capacity. The remaining work largely involves conversion of 4.8 kV services to existing Medical Center buildings and the Engineering IV Building to 12 kV service.

**Fire Safety Systems Improvements:** The campus is completing a phased program to upgrade deficient fire alarm systems to improve life safety for faculty, students, and staff in all campus facilities. The electro-mechanical systems in use in many buildings are outdated and replacement systems are no longer manufactured. A project to complete these improvements in state-supported facilities is underway, as is planning to complete upgrades throughout the rest of the campus within the next few years.

### **6. Corrections for Seismic Safety**

**Seismic Upgrading:** The potential for significant injuries, loss of life, and property damage which might result from an earthquake is significant because of the age of many buildings and the proximity of known earthquake faults. UCLA's older buildings were designed to less-stringent construction code requirements. Many of these buildings have had serious seismic life safety deficiencies. Project proposals for corrections must take into account the need to phase renovations and relocate programs to minimize disruption to academic activities during construction.

UCLA has an ongoing comprehensive seismic safety program to address seismic corrections on the buildings that were identified as "Poor" or "Very Poor" in its original 1978 seismic study. In addition, the 1994 Northridge Earthquake damaged several general campus buildings as well as buildings at the Center for the Health Sciences (CHS), prompting a program to repair and upgrade the damaged facilities. In response to new building codes and standards following the earthquake, a new comprehensive study was done and identified a number of additional seismically deficient buildings. Projects to

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

address the damaged general campus buildings are completed or are being completed, and detailed planning is underway on the remaining “Poor” or “Very Poor” buildings. Funding for corrections to address the State-supported buildings in this group has been scheduled at the earliest possible dates within the State-funded capital projects program, except for a few buildings that will be upgraded with campus funds. Seismic upgrades on deficient non-State-funded buildings are also planned within the next five years.

Some of the structures comprising the CHS were damaged in the Northridge Earthquake, and others that were previously considered seismically adequate were found to be deficient. These problems are addressed in the context of the Academic Health Center Master Plan for redevelopment of the CHS. Two replacement hospitals are under construction and projects to provide replacement buildings for instruction and research space are underway or in the planning stages. Some of the damaged structures at the CHS will be demolished, and others will receive seismic corrections and renewal.

# MERCED CAMPUS

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## Capital Improvement Program

APPROVED	1998
ENROLLMENT 2010-2011 (Projected)	5,000 FTE
CAMPUS LAND AREA	2,000 acres

## **MERCED CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

The University of California, Merced, the tenth campus of the UC system, is targeted to open in Fall 2005. The campus will be able to serve 1,000 students in its inaugural year, with the addition of 800 students each year thereafter. The campus is planned to open with 75 faculty and lecturers and will offer six initial undergraduate majors and five graduate majors in the social sciences, humanities, arts, engineering, and natural sciences. At this time the Division Deans and new faculty are actively planning curricula and conducting research at the Castle Aviation and Development Center located in Atwater, California, approximately ten miles from the campus site.

The State-funded Castle Facilities Improvements project, now in construction, will provide an array of laboratory space for continued use by UC Merced faculty. Faculty, post-doctoral students and technical staff are working inside the Castle facilities presently. These academic programs will expand to include graduate students. UC Merced has an active concurrent enrollment program with nearby community colleges, and students from these programs are already working with UC Merced faculty. It is anticipated that many of these Community College students, who are UC eligible, will transfer to UC Merced in their Junior year.

Physical planning for development of the 2,000-acre Merced campus site resulted in the preparation of the campus LRDP and the associated environmental impact report and plans for utilities, infrastructure, and transportation. These master-planning efforts address the ultimate development of the entire campus at an anticipated build-out that will accommodate 25,000 FTE students, as well as more detailed plans for the initial phase of development to accommodate 5,000 FTE students by 2010.

In January 2002, The Regents approved the UC Merced Long Range Development Plan, the campus Environmental Impact Report, the acquisition of land for the proposed campus, and the establishment of a Limited Liability Corporation involving 1,240 acres of the University



## **MERCED CAMPUS INTRODUCTION (continued)**

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Community. Development of off-campus utilities and infrastructure is underway to serve the new campus. This includes provision of water, sewer, natural gas, and data/telecommunications. Pacific Gas and Electric will provide a dual-feed electric service.

Both the LRDP and the University Community Plan envision close connections between the core campus and the town center which will form the heart of the University community with compact, pedestrian-oriented development; infrastructure systems and transportation facilities shared between the campus and the Community; and preservation of significant areas of open space and natural habitats.

The University has partnered with the Nature Conservancy, the Wildlife Conservation Board, and various federal and state agencies on the acquisition and permanent protection of over 20,000 acres of grassland and vernal pool habitat in the vicinity of the campus. In addition, the University through a grant from the David and Lucile Packard Foundation has acquired 5,750 acres for conservation, including a 750-acre natural reserve contiguous to the UC Merced campus. These efforts have contributed greatly towards the establishment of a regionally based conservation effort in eastern Merced County and will support the teaching and research mission of the campus.

Construction for campus site development and infrastructure began in 2002. Mass grading and the development of several major underground utility features are complete including an underground utility tunnel which is the backbone of the campus utility distribution system. An important bridge spanning a major agricultural canal and main road through campus is completed. The first three major academic buildings are fully funded and under construction. Student housing and support facilities are being developed.

The 2004-2009 State-funded Capital Improvement Program for the Merced campus, as presented in this section, continues funding for the Logistical Support/Service Facilities project and projects necessary to provide capacity for a growing faculty and 6,000 students by 2010. These include the Social Sciences and Management building and Science and Engineering Building 2.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**MERCED CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED		PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
		(000s)			2005-06 (000s)	2006-07 (000s)	2007-08 (000s)	2008-09 (000s)	
12	Logistical Support/Service Facilities (900080)	P 393 W 481	C 8,326 E 964						10,164
	Social Science and Management (900060)			P 1,530	W 2,070	C 31,875			38,775
	Science and Engineering 2				P 2,200	W 2,650	C 32,000		40,850
	<b>CAMPUS TOTAL</b>			<b>9,290</b>	<b>1,530</b>	<b>4,270</b>	<b>34,525</b>	<b>32,000</b>	

**MERCED CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**12. Logistical Support/  
Service Facilities ..... CE \$ 9,290,000**

State funds are requested for construction and equipment for an approximately 20,600 asf logistical support services facility, providing space for Environment, Health and Safety; Facilities Management; Mail Services; Purchasing and Materials Management; and other related safety and support operations.

**Social Sciences and  
Management ..... PWCE \$ 38,775,000**

A new Social Sciences and Management building will be needed to provide instruction and research space for selected Social and Behavioral Science departments, such as Economics and Political Science, and programs with emphasis in public policy, human institutions, economic activity, and global resource management. The facility will include space supporting undergraduate and graduate business management programs.

**Science and Engineering  
Building 2 ..... PWCE \$ 40,850,000**

A second project for the Divisions of Natural Science and Engineering will provide research and office space to accommodate new student enrollment and faculty growth. A combination of new and existing programs is planned including: Earth Systems Sciences, Organic Chemistry, Chemical and Quantitative Biology, Industrial and Systems Engineering, Materials and Chemical Engineering. The facility would provide space for the laboratory and support functions of these additional program areas.

## **MERCED CAMPUS OTHER CAPITAL NEEDS**

The Merced LRDP establishes a vision for the physical development of the campus. Phase 1 of development will accommodate buildings needed for the campus from opening day until approximately 2007-08. This first phase includes campus site development and infrastructure, academic facilities, logistics and support buildings, housing and food service, recreational and athletic facilities, and surface parking lots. Construction began during 2002. By 2010-11, additional facilities needed to support an enrollment of 5,000 FTE students will be needed.

UC Merced's goal is to house 50 percent of students on campus. Program elements for athletics and recreation are expected to include curricular offerings, intramural athletics, and intercollegiate athletics, as well as facilities for staff and faculty. Investments will be made in bicycle, pedestrian, and transit systems to minimize reliance on automobiles.

# RIVERSIDE CAMPUS

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## Capital Improvement Program

ESTABLISHED	1907
ENROLLMENT 2002-2003 (ACTUAL)	12,860 FTE undergraduates 1,579 graduate students 52 health science students
LIBRARY COLLECTION	2.2 million volumes
CAMPUS LAND AREA	1,200 acres
CAMPUS BUILDINGS	3.6 million assignable square feet

## **RIVERSIDE CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Established in 1907 as a citrus experimental and research facility of the University of California, the Riverside campus and its facilities have become a center of research and learning in the rapidly growing Inland Empire region of Southern California. Campus enrollment increased significantly over the past decade and is expected to continue increasing dramatically over the next decade. While the continuing regional growth creates demographic pressures on all educational institutions, the capacity of the Riverside campus to accommodate this growth depends significantly on the availability of resources to construct new facilities as well as improve existing ones.

Academic development has been shaped by past enrollment patterns and influenced by the 1990 LRDP, which is based on a future headcount enrollment of 18,050 students (approximately 17,420 FTE) in 2005-06 and the potential for additional growth beyond that level. In 2002-03, general campus enrollment was 14,439 FTE students, severely straining campus facility capacity. The State has projected major increases in student demand over the next decade and the University anticipates substantial enrollment growth at Riverside and other campuses. Current revised University forecasts anticipate enrollment growth at Riverside to increase to 20,320 FTE by 2010-11 for an increase of 40 percent from 2002-03 including summer and off-campus enrollment growth).

The surge in enrollment has made it necessary for the campus to accelerate its timeline for bringing future capital projects on-line. Simply stated, the buildings that were planned for implementation in future years of the capital improvement program will be needed sooner to address current short-falls and accommodate growth. The campus has undertaken a re-examination and revision of its LRDP to assess the impact of this increased growth, initiated related environmental assessments, and developed strategies (including summer and off-campus programs) for responding to these changes while maintaining high academic standards. It is anticipated that the updated LRDP will be submitted to The Regents in 2003-04.

## **RIVERSIDE CAMPUS INTRODUCTION (continued)**

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The important capital improvement issues include: the continuing improvement and evolution of academic programs (including those in the physical and biological/life sciences, engineering, and humanities and social sciences); the serious need for renewal or replacement of academic buildings that have not had significant improvement in decades; the renewal and extension of campus infrastructure to address its advancing age as well as the recent and expected growth of the campus; and development of the West Campus.

**Capital Plans:** Capital plans at the Riverside campus are shaped by these issues and reflect the urgent need to accommodate programs that are changing and rapidly expanding while simultaneously addressing seismic, code-related, and other deficiencies. Increases in the Riverside campus population of students, faculty, and staff have created a demand for instruction and research facilities, specialized student services, athletic and recreation facilities, housing, and various campus support services. These, in turn, have generated additional requirements for communications networks, roadways, pedestrian walkways, open space, and utility and other infrastructure systems.

Other critical needs that have created demand on capital resources include completing the correction or replacement of facilities that have a seismic rating of “Poor” or “Very Poor” or have accessibility or code-related deficiencies, are obsolete due to emergence of new methods and technologies in teaching and research, or have operational inefficiencies resulting from dispersion of related academic units.

**Campus Development Strategy:** The Riverside campus has a multifaceted strategy for overall development of its physical facilities and environment, which is related to LRDP goals and growth projections and is shaped by available resources. New facilities will be constructed when possible to meet the need for types of space not now available or to replace facilities that cannot be effectively renewed and renovated. This will be done on infill sites within the existing academic core and on sites within designated LRDP land use areas. Growth pressures have created the need to develop the West Campus for professional and graduate schools, freeing up space in the East Campus academic core for undergraduate instruction and research activities. The opportunity created by the release of space in existing buildings will be used to alleviate other problems of crowding, obsolescence, and location. Existing facilities will be improved, alterations will be provided

## **RIVERSIDE CAMPUS INTRODUCTION (continued)**

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that allow new occupants to make effective use of reassigned space, seismic and other code problems will be corrected, and the intensity of space use will be increased. Additional student service facilities, including housing and recreation, will be provided in conjunction with anticipated growth and program needs. An adequate support infrastructure also will be provided. To preserve central campus sites for academic uses, many administrative and other supporting activities have been housed in facilities at the campus periphery.

**Development Plans and Programs:** The Riverside campus capital program, project priorities, and funding schedules are developed to meet current needs within available resources while continuing long-term planning in accordance with its LRDP.

- **Classrooms, Laboratories, and other Academic Support Facilities:** Much of the present classroom and laboratory space in older buildings is obsolete or in poor condition and needs upgrade or replacement. Some programs lack the specialized facilities needed to adequately support their courses. New and expanded facilities will be required to support continued growth of academic programs and enrollment.
- **Libraries:** Additional space and use of new information access technologies will be required for the campus libraries to keep pace with program development.
- **Professional Schools:** The campus LRDP envisions establishment of additional professional schools and sites, and the development of facilities for the Anderson Graduate School of Management and the Graduate School of Education.
- **Administrative and Campus Support Facilities:** Additional space will be required for administrative and support services to accommodate past and future growth. To accommodate the enrollment projections, core facilities will be required for central administrative and enrollment functions near student activity centers and student support services.

**Pedestrian and Vehicular Circulation:** To address existing circulation problems and prepare for the future while maintaining a park-like campus,



## **RIVERSIDE CAMPUS INTRODUCTION (continued)**

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emphasis will be placed on maintaining a pedestrian-oriented campus core with walkways and bicycle paths. Campus circulation deficiencies will be addressed by improvement of peripheral roadways and development of campus transportation hubs, coordinated with other major improvements by the City of Riverside and other agencies for University Avenue, Martin Luther King, Jr. Boulevard, Boulevard, and State Highway 215/60 freeway access points.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**RIVERSIDE CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
2	Psychology Building (950451)	P 1,075 W 1,166	C 30,192		E 1,924			34,357
13	Geology and Physics Renovations (950446)		P 500 W 700 C 16,577					17,777
20	Materials Science and Engineering Building (950450)		P 1,600 W 2,149	C 47,886		E 4,334		55,969
	College of Humanities and Social Sciences Instruction and Research Facility (950377)	P 937 W 1,561 C 28,729		E 900				32,127
	Environmental Health and Safety Expansion (950456)			P 400 W 600	C 10,200			11,200
	Student Academic Support Services Building (950457)			P 750	W 1,130	C 17,500		19,380
	West Campus Infrastructure Improvements (950414)				P 300 W 410 C 6,600			7,310
	West Campus Professional and Graduate Center Phase 1 (950449)				P 1,025 W 1,375 C 18,000			20,400
	Hinderaker and Anderson Hall Renovations (950458)				P 200	W 200	C 4,700	5,100
	Science Facility Renovations				P 300	W 400 C 7,800		8,500
	Instruction and Research Facility					P 700 W 1,760	C 19,950	23,310
	Campus Infrastructure Improvements 3					P 255	W 355 C 8,790	9,400
	Academic Renovations					P 355	W 490	10,000
	West Campus Instruction and Research Facility						P 550	14,850
	<b>CAMPUS TOTAL, GO BONDS</b>		<b>51,718</b>	<b>50,536</b>	<b>41,464</b>	<b>33,304</b>	<b>34,835</b>	
	Genomics Building		P 1,547 W 1,989 C 40,664 E 10,800					55,000
	<b>TOTAL, LEASE REVENUE BONDS</b>		<b>55,000</b>					

**RIVERSIDE CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**2. Psychology Building.....CE \$ 32,116,000**

State funds are requested for construction of the Psychology Building. UCR proposes to construct the 51,915 assignable square foot Psychology Building to provide space for interdisciplinary instructional and research programs in Psychology. The project will address significant growth in the College of Humanities, Arts, and Social Sciences, and will facilitate reuse of existing facilities that will be necessary to support teaching and research requirements in the College. In addition, this project will provide a new vivarium facility to support UCR's growing research needs.

**13. Geology and Physics Renovations ..... PWC \$ 17,777,000**

State funds are requested for preliminary plans, working drawings and construction for the Geology and Physics Renovations project. This project will provide 1,822 asf in new space and 71,007 asf in renovated space for low to moderate intensity research while correcting infrastructure system deficiencies of these two aging buildings. The Geology Building renovation work will support programs in the Environmental Sciences and the Earth Sciences/Institute of Geophysics and Planetary Physics (IGPP). The Physics Building renovations will entail the insertion of an additional floor within the existing high bay plasma lab, consolidation of machine shops, and renovation of existing space into new research facilities for Physics.

**20. Materials Science and Engineering Building..... PWCE \$ 55,969,000**

State funds are requested for the preparation of preliminary plans and working drawings for the Materials Science and Engineering Building. This project will provide approximately 77,000 asf of laboratories, laboratory support, and academic office facilities to address the significant enrollment growth in the College of Engineering and the College of Natural and Agricultural Sciences. The building will house

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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instrumentation and clean room facilities for interdisciplinary nanoscale technology and engineering instruction and research focused on materials science, electronic and optical devices, and structural chemistry and biology. In addition, the project will provide approximately 18,000 asf of general assignment classrooms for the campus.

**College of Humanities and  
Social Sciences Instruction and  
Research Facility..... E \$ 900,000**

State funds are requested for equipment for the College of Humanities and Social Sciences Instruction and Research Facility (CHASS). Enrollment in CHASS is expected to increase by over 70 percent by 2010. The project will construct approximately 69,397 asf of instructional, research, and office space for several CHASS interdisciplinary academic programs. The building is part of a multiphased plan that includes major renovations to existing buildings and construction of new space needed to accommodate current and projected student enrollment growth. The new building is proposed to be located within the CHASS academic precinct in order to benefit from programmatic adjacencies.

**Environmental Health and  
Safety Expansion..... PWC \$ 11,200,000**

This project will provide approximately 20,000 asf in laboratories, waste handling facilities, and related office and support space to help this critical unit respond to the increased requirements of the growing campus.

**Student Academic Support  
Services Building ..... PWC \$ 19,380,000**

This project will provide a new building of approximately 39,800 asf for student academic support services office and support space, addressing the growth needs of core support services including Admissions, Financial Aid, and the Registrar.

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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### **West Campus Infrastructure Improvements ..... PWC \$ 7,310,000**

Rapid growth of enrollment and programs will require that core campus facilities expand into the western campus area. This project will provide for utility and circulation improvements including domestic water, sanitary sewer, storm drain, natural gas, electrical power, and communications systems needed to support the initial academic development of the West Campus.

### **West Campus Professional and Graduate Center Phase 1 ..... PWC \$ 20,400,000**

This project, one of the first steps in developing UCR's West Campus to respond to enrollment growth, will provide a new building of approximately 40,270 asf with classrooms, instructional and research laboratories, academic offices, and departmental support spaces. Many of these facilities are planned to support shared use by professional school programs for subsequent phases of West Campus development.

### **Hinderaker and Anderson Hall Renovations ..... PWC \$ 5,100,000**

This project will renovate approximately 45,800 asf in existing Hinderaker Hall and Anderson Hall. It will provide growth space for the College of Humanities, Arts, and Social Sciences instruction and research programs in Hinderaker Hall by moving core campus administrative functions to Anderson Hall.

### **Science Facility Renovations ..... PWC \$ 8,500,000**

The Science Facilities Renovations project will include the renovation and upgrade of 28,057 asf located in the remaining areas of the Geology Building. Renovations associated with this project will provide improvements for the Department of Earth Sciences/Institute of Geophysics and Planetary Physics (IGPP). These renovations have been phased to coordinate with the earlier upgrade included in the State-funded Geology and Physics Renovations project.

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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### **Instruction and Research Facility..... PWCE \$ 22,550,000**

This project will construct approximately 43,500 asf of facilities for general assignment classrooms, instructional and research laboratories, academic offices, and administrative support space needed to support campus enrollment increases. In addition to providing new space for growth programs, relocation of departments into the proposed building would provide critical release space for reassignment to other expanding academic programs and functions.

### **Campus Infrastructure Improvements 3 ..... PWC \$ 9,400,000**

This project will follow earlier infrastructure upgrades and provide an expansion of the campus steam system, chilled water/condensate return, and domestic water capacity. The project will also continue to address the 5kv to 12kv electrical system conversion. These infrastructure improvements are required to accommodate the demand on campus systems as enrollment continues to increase.

### **Academic Renovations..... PWC \$ 10,000,000**

The targeted renovation and upgrade of building systems in deficient core campus facilities will provide flexible and adaptable instructional and research space for the current and future programs, principally in the sciences. Facility improvements will include upgrading fume hoods where applicable, as well as electrical, HVAC, and plumbing systems.

### **West Campus Instruction and Research Facility..... PWC \$ 14,850,000**

This project will construct approximately 32,000 asf of instruction and research facilities, including instruction and research laboratories, academic offices, and department support space located in the professional school development zone on the West Campus.

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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### **Genomics Building..... PWCE \$ 55,000,000**

State funds are requested for preliminary plans, working drawings, construction, and equipment for the Genomics Building, a new facility to support interdisciplinary student and faculty research in plant, pest, and microbial genomics issues of major financial and social importance to the agricultural economy of California. The project will provide approximately 64,000 asf of instruction and research laboratories, related specialized research support facilities, and office and support space. The increased focus of the Riverside campus on this direction of specialized laboratory research in agriculture has reduced the need for an existing field facility that will be sold to support the cost of the new building.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS**

The capital needs described below are reflected in Riverside's master space planning efforts, the 1990 LRDP and, where appropriate, the LRDP update expected to be finalized in 2003-04. The rapid growth experienced by the campus in recent years has been accommodated in facilities that in many cases were constructed over two or three decades ago. The capital program is driven by the simultaneous need to upgrade and renew aging buildings and infrastructure, to make improvements to support programs that have evolved substantially, and to adapt or expand facilities to catch up to past enrollment growth and accommodate new growth and new programs. There is an urgent requirement for additional facilities to accommodate new students and expanded programs. Some of this growth will be accommodated through the development planned for the West Campus which will include relocation of existing professional schools to free up space in the East Campus central academic core, the establishment of new graduate and professional schools, and development of new housing and recreation facilities. UCR places great importance on carefully coordinating the construction of new academic and student support facilities with a systematic building renewal program to make the most effective use of existing space.

### **1. Core Academic Facilities**

Present plans include enlarging the boundaries of the academic core and implementing a number of major infrastructure construction projects. Within the existing academic core, a number of buildings require renewal to correct code and other deficiencies, to upgrade or replace building systems, and to provide for major academic program changes.

**Classrooms:** General assignment classroom space is distributed throughout each of the academic program areas. Many classrooms are old and need upgrading for modern teaching practice. In addition, new classroom space needed to meet enrollment levels defined in the LRDP will be included in major academic building projects as appropriate.



## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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Some reorganization within existing facilities also may yield improved or additional classroom space.

**College of Humanities, Arts, and Social Sciences:** Several departments of the College of Humanities, Arts, and Social Sciences (CHASS) are housed in facilities that often are in poor condition, are crowded, do not meet functional needs, and are dispersed in several locations. At projected College enrollment levels, the College will require additional instruction and research space for all program areas. The CHASS Instruction and Research Facility will address a portion of this need. In addition to these projects, new and renovated instruction and research space is needed to accommodate growth in the arts.

**College of Natural and Agricultural Sciences:** These programs will require improved and expanded facilities to address existing space deficits from past enrollment growth, the continuing evolution of programs, and technological advances. Much of the laboratory space that was built in the 1960s has become obsolete with rapid changes in research directions in recent years. Older facilities with serious building infrastructure and program deficiencies require renewal to support campus programs. More class laboratory, research, and greenhouse space will be needed as the campus population grows. Currently proposed projects will begin to address these critical space needs, but ongoing requirements for class laboratory space equipped for instruction in the sciences and modern research space will necessitate strategic combinations of new space and renovation of existing facilities.

**Bourns College of Engineering:** More class laboratories, laboratory support, and academic offices and departmental support space will be needed to accommodate enrollment growth in this College. Improved and expanded facilities will be required to address the continuing evolution of programs and technological advances. The Engineering Building Unit 2 and Material Sciences and Engineering Building projects will provide much-needed relief for many of these areas. However, anticipated growth of the College will require development of additional space, as well as renovations of existing class laboratory and research laboratory space in response to evolving program needs and research initiatives.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Professional Colleges and Schools:** The continued development of UCR's professional colleges and schools, which include the Graduate School of Management and the Graduate School of Education, will require additional facilities. In the context of UCR's LRDP update and West Campus Area Plan, these new facilities will be located on the West Campus.

- **Management:** The A. Gary Anderson Graduate School of Management (AGSM) is currently housed in the central and south wings of Anderson Hall (the original Citrus Experiment Station building). The School will be relocated to new facilities in the West Campus when available, supporting program development and enrollment growth for the School. The School's needs include space for academic offices, class laboratories, and seminar and colloquia rooms.
- **Education:** The Graduate School of Education is currently housed in Sproul Hall, in the middle of the College of Humanities, Arts and Social Sciences precinct in the core academic area of the East Campus. Longer term plans for the School include relocation to new facilities on the West Campus when available.
- **New Professional Schools:** The LRDP envisions development of new professional schools in response to the continued rapid development of the inland area of Southern California and the increased needs of the region and state. A professional and graduate school reserve on the West Campus has been provided in the LRDP.
- **Libraries:** The rapid advance of information and education technology, coupled with the long-term expansion of enrollment and academic programs defined in the LRDP, requires continued improvement and expansion of the information systems and library facilities of the campus.
- **Cultural Facilities:** Existing performance facilities are small, heavily scheduled, and relied upon for multiple purposes on a campus with few large assembly spaces. The campus art gallery is temporarily located in a building not designed for that purpose.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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With performing arts programs and cultural exhibitions playing a major public service role in cultural life at UCR and the community, the campus must expand its capacity to make theater, music, dance, exhibits and other arts events accessible to a wider public. New performance and gallery facilities projects are planned for the future.

### **2. Administrative and Support Facilities**

**Campus Administration:** With enrollment growth over the last decade, existing administrative facilities have become crowded and inadequate to properly support the activities housed in them. Many administrative units have been moved into off-campus, leased locations or to newly acquired properties adjacent to the campus. The LRDP identifies new facilities for campus administration, enrollment management, and student-oriented administrative services.

**Alumni and Visitor Center:** There are currently no separate facilities to accommodate alumni functions or the needs of the visiting public. A new non-State-funded facility is planned to address these needs.

### **3. Auxiliary Enterprise Facilities**

**Housing:** Enrollment growth and housing demand from the past decade, couple with anticipated enrollment increases and housing demand in the next decade will require additional new bed spaces. The campus expects to build new housing facilities regularly, and plans are being developed for new residence halls, apartment complexes, and cluster housing complexes to accommodate affinity groups. The Strategic Plan for Housing, completed in 2002-03 provides a framework for the phased implementation of new construction, acquisition, redevelopment and renovation for all campus housing types.

**Athletics and Recreation Facilities:** As the campus develops, intercollegiate athletics and student recreation activities will be distributed beyond the East Campus Academic Core so they can have space to grow, rather than limit the few remaining prime sites needed for the expansion of other student services and academic programs. In the context of the 2004 LRDP Update, approximately 60 acres are

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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identified for recreation and athletics use. To meet requirements of indoor and intercollegiate sports, major new athletic facilities will be required to replace the existing Physical Education building. The next increments of student recreation facilities are slated for implementation in conjunction with UCR's Strategic Plan for Housing.

**Child Care Facilities:** The Campus Child Development Center, occupied in Fall 1996, currently provides day care services for children of students, faculty and staff. The campus is studying options to provide additional facilities in response to increasing demand. These options are being evaluated in conjunction with UCR's Strategic Plan for Housing.

### **4. Campus Infrastructure Improvements**

**Roadway Accessibility:** Roadway improvements will be required as the academic core expands. A ring of primary circulation roads, four lanes in width, may be established. Existing interior roadways will be transformed into a limited-access roadway system. Pedestrian amenities will be created and combined with other improvements to support increased use of public transit and an expanded campus shuttle system.

**Parking:** As the campus adds more facilities, new parking facilities at the periphery will be required to replace interior parking lots lost to new construction. Within the next five years, the expected increase in overall demand for parking will require development of major transportation hubs, including parking structures. Planning is underway to develop sites at the major entrances to the campus.

**Campus Communications Network:** The campus intends to extend its existing communication systems which include telephone, data, video, and emergency/security services. The expanded network of lines typically will be installed as individual infrastructure projects, and future building projects will be connected to the system as required. Future improvements in campus telecommunications will be necessary as use of electronic communication expands and technology changes.

**Utilities Expansion and Modernization:** As the campus develops existing and new sites, the network of gas, domestic water, sanitary

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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sewer, storm drain, steam, chilled water, and electrical lines must be extended. Some utility lines will require renewal and expansion in response to age and increased demand. The East Campus Infrastructure Improvements and West Campus Infrastructure Improvements projects will address the most critical of these areas. Beyond these projects, however, continued renewal and expansion of aging or undersized utility systems will be needed on an ongoing basis to ensure stable and efficient service distribution. Completion of a new satellite chiller facility in 2003-04 will address the near-term chilled water demands of new buildings being constructed on the East Campus. The recently completed Thermal Energy Storage (TES) tank systems are helping address the need to store chilled water and shift electrical demand from peak to off-peak periods, thereby reducing utility costs. Concurrently, the campus is making provisions for emergency power during disasters by installing emergency generators.

**Landscape Improvements and Site Development:** Campus plans include the extension of the existing landscaped mall system on the East Campus, beginning with a strategic restoration of the University Arroyo and development of the Fine Arts Mall. Other landscape improvements may include exterior development at the main entrance to the campus, and creation of malls to connect the Recreation Center, Student Commons, and engineering buildings, being analyzed in conjunction with the East Campus Entrance Area Study scheduled to be completed in 2003-04. Pedestrian walkways and integrated bicycle lanes will be developed as the campus explores extensions to its formal landscape system of campus entries, malls, plazas, courtyards, and terraces. Landscape and site development guidelines are also being formulated in anticipation of West Campus development.

### **5. Improvements to Facilities for Health and Life Safety**

**Asbestos:** While much asbestos abatement work has been completed, further work will continue during renovations, building renewal, and as funding opportunities occur.

**Fire Safety:** Fire detection and suppression systems in older buildings must be upgraded to comply with contemporary codes and safety concerns. Fire safety vehicle access routes and traffic control measures may be adjusted as the campus develops.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Environmental Health and Safety Improvements:** As programs expand, more laboratory facilities are constructed, and regulatory requirements become more stringent, demands on the Hazardous Waste Facility will increase. The Environmental Health and Safety Expansion project in the 2004-2009 State-funded program will address certain needs. As the campus continues to grow, it is anticipated that additional environmental health and safety facilities may be needed.

### **6. Corrections for Seismic Safety**

**Seismic Improvements:** All State-supported buildings on campus that have been identified as seismically “Poor” or “Very Poor” have been addressed within the proposed five-year capital program. Two projects involving other programs remain to be addressed.

# SAN DIEGO CAMPUS

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## Capital Improvement Program

ESTABLISHED	1912
ENROLLMENT 2002-2003 (ACTUAL)	18,201 FTE undergraduates 2,961 graduate students 1,366 health science students
LIBRARY COLLECTION	2.9 million volumes
CAMPUS LAND AREA	2,040 acres
CAMPUS BUILDINGS	6.7 million assignable square feet
HOSPITAL AND CLINICS	918,842 assignable square feet

## **SAN DIEGO CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

The University of California, San Diego campus began in the early 1900s as a marine research station that later developed into the Scripps Institution of Oceanography. In 1960, the campus was officially designated as an independent UC campus, serving both undergraduate and graduate students. Since its inception, the campus has evolved into an internationally distinguished research university. Six semi-autonomous colleges, each with its own residential and academic facilities and distinctive educational philosophy, serve UCSD's undergraduates. Designed to accommodate 2,500 to 3,500 students each, the colleges provide students with academic and extramural opportunities that are usually found only in small college environments. UCSD students also benefit from the academic enrichment provided by General Campus divisions and schools, the Scripps Institution of Oceanography, the Graduate School of International Relations and Pacific Studies, the School of Medicine, and the School of Pharmacy and Pharmaceutical Science.

As UCSD endeavors to address the shortfalls resulting from past enrollment growth and accommodate projected increases, the capital program must include the construction of essential additional space at the same time that an increased effort is made to renew and upgrade existing aged buildings and infrastructure. Additionally, new campus facilities are needed to support emerging academic and research programs that are critical to the success of the California economy and the quality of life of its citizens.

The current UCSD Long Range Development Plan (LRDP), adopted in 1989, envisioned a student population of 26,050 FTE by 2005-06. However, as a result of evolving academic plans and new demographic projections, it is now anticipated that UCSD will grow to 32,700 FTE by 2020-21 (including summer enrollment). Accordingly, a new LRDP is being prepared.



## **SAN DIEGO CAMPUS INTRODUCTION (continued)**

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Several areas comprise capital needs at the San Diego campus.

- **Instruction and Research:** As programs evolved, especially in the last decade, a shortage of space developed in many campus instruction and research programs. Recent projects have addressed some of those needs, but space shortages remain, particularly in the Engineering and Natural Science disciplines. Enrollment growth in recent years means the campus again is faced with a shortage of space and limited flexibility for a number of academic programs.
- **Renewal of Existing Facilities and Infrastructure:** Many of the buildings on the General Campus, School of Medicine, and Scripps Institution of Oceanography are over 30 years old and require renewal and infrastructure upgrades in response to changing academic programs, health and safety requirements, and obsolescence. UCSD's original buildings throughout the campus are no longer efficiently or effectively supporting today's teaching and research. Modernizing these buildings and providing upgrades to meet fire, life safety, and other code requirements are high campus priorities. In addition, there are several buildings in the core area of the campus that were acquired from the former US Marine Corps Camp Matthews military base. These single-story, wood-frame structures are slowly being demolished and replaced with more suitable facilities to better respond to academic program needs and utilize land more efficiently.
- **Utility Systems:** Improvements to the campus and medical center utilities plants, including renewal of building systems and introduction of new energy management and energy conservation equipment, have proven to be efficient and cost-effective, and will continue to be implemented over the next five years. The campus will continue to explore energy conservation options and implement new measures. Improvements at the main campus Central Utilities Plant will provide increased cooling and emergency power capacity to support existing and new space. Improvements to the campus telecommunications network will accommodate expanding computing and instructional technologies.
- **Development Strategy:** UCSD's capital improvement program will balance new construction, renovation, building system upgrades, and the renewal and expansion of infrastructure. Private gifts and grants,

## **SAN DIEGO CAMPUS INTRODUCTION (continued)**

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industry partnerships, and federal grants and contracts will continue to provide important capital funding to complement State funds.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**SAN DIEGO CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
-	Pharmaceutical Sciences Building (962860)	P 1,356 P [405] LB W 1,658 W [428] LB C 24,714 C [10,552] LB C [360] X E [940] LB	E 2,049					29,777 [12,685]
4	Student Academic Services Facility (962610)	P 959 P [355] X W 1,172 W [434] X	C 19,461 C [2,340] X C [5,000] LB	E 500				22,092 [8,129]
8	Satellite Utilities Plant, Phase 1 (966157)	P 259 W 388	C 8,200					8,847
11	Applied Physics and Mathematics Renovation (962740)	P 380 W 465	C 8,809					9,654
14	Mayer Hall Addition and Renovation (962710)	P 1,750 W 1,809	C 25,096	E 441 E [559] X	C 11,630			40,726 [559]
25	SIO Research Support Facilities (962560)		P 182 W 157 C 3,087					3,426
30	Music Building (962870)		P 1,711 W 2,091	C 34,222	E 2,111			40,135
	Biomedical Library Renovation and Addition (965130)	P 800 W 1,000 C 14,503 C [771] X		E 700				17,003 [771]
	Structural and Materials Engineering Building (962630)			P 3,250	W 3,900 C 29,600	C 29,600		70,850
	Satellite Utilities Plant Phase 2 (966158)				P 175 W 215 C 3,600			3,990
	Instructional Technology Building (963230)					P 1,475	W 1,760 C 26,765	32,000
	Biology/Physical Sciences Building (963240)						P 3,636	79,325
	<b>CAMPUS TOTAL</b>		<b>70,843</b> <b>[7,340]</b>	<b>39,113</b> <b>[559]</b>	<b>51,231</b>	<b>31,075</b>	<b>32,161</b>	

**SAN DIEGO CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

- Pharmaceutical Sciences Building ..... E \$ 2,049,000**

State funds are requested for equipment for the Pharmaceutical Sciences Building. This project will provide 44,000 asf of classrooms, laboratories, laboratory support space, core facilities and offices to accommodate the new School of Pharmacy, and 19,800 asf of non-State-funded laboratories, laboratory support space, and offices for the Health Sciences, for a total of 63,800 asf.

UCSD's School of Pharmacy is the second public pharmacy school in California. The School will award Doctor of Pharmacy (Pharm.D.) and Doctor of Philosophy (Ph.D.) degrees and expand the existing undergraduate Pharmacological Chemistry major. The School began admitting limited numbers of Pharm.D. students in Fall 2002, and will move to steady-state-sized classes when this facility is completed in Fall 2005.

- 4. Student Academic Services Facility ..... CE \$ 19,961,000**  
**C \$ [2,340,000]X**  
**C \$ [5,000,000]LB**

State funds are requested for construction of the Student Academic Services Facility. This project will address enrollment growth and serious existing space deficiencies, fragmented operations, and poor adjacencies for key student academic service units such as Admissions and Relations with Schools, Financial Aid Office, Office of the Registrar, Office of Graduate Studies and Research, Central Cashier, and Student Billing Services. The new building, to be located in the center of campus, will provide 76,500 asf of offices, office support, conference, and assembly space to provide essential services to students and visitors. State funding will be supplemented by campus resources to complete the consolidation of student services units and to house several key student-fee-funded services.

**SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)**

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**8. Satellite Utilities Plant, Phase 1..... C \$ 8,200,000**

State funds are requested for construction of a satellite utilities plant. The existing campus central utilities plant is on a constrained site and cannot be expanded further to support campus growth after 2005-06. The construction of new buildings and increased utilities demand in existing facilities will require the establishment of a new satellite plant, which will be developed in phases. The work of each phase will provide incremental increases in campus chilled water and emergency power-generating capacity. This first phase is planned to provide a new chiller, water towers, and related chilled water distribution system improvements; add new emergency generators; provide connection of utility services from the proposed plant to the West Campus chilled water and emergency power distribution system; and construct a 9,700 gsf structure to house the equipment.

**11. Applied Physics and Mathematics Renovation..... C \$ 8,809,000**

State funds are requested for construction to renovate the Applied Physics and Mathematics Building. Upon occupancy of Engineering Building Unit 3B, the Computer Science and Engineering Department will release approximately 45,000 asf in the Applied Physics and Mathematics Building located in Muir College. This project will renovate the released space to accommodate the projected space needs of various departments and programs located within the Muir College area. The majority of the proposed renovation entails the creation of wet labs, dry computer labs, and office space. The renovation also will upgrade the building's telecommunication infrastructure.

**14. Mayer Hall Addition and Renovation..... CE \$ 37,167,000  
E \$ [559,000]X**

State funds are requested for construction of a renovation and addition to Mayer Hall. Mayer Hall was built in 1963 for Physics programs and has never benefited from a major remodel; critical building systems are in disrepair. This project will renovate 35,000 asf of existing space and provide 45,000 asf of new space to address projected space deficiencies

**SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)**

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for the Physics Department. The project will allow for the relocation of Physics class laboratory space from Warren College, provide laboratories and offices to address growth needs in Physics, modernize existing research labs, and provide building system and code upgrades, including a building-wide sprinkler system. The released space at Warren College will be reassigned to the Jacobs School of Engineering and the Music Department.

**25. SIO Research Support Facilities.....PWC \$ 3,426,000**

State funds are requested for preliminary plans, working drawings and construction of a project that will replace seven sheds and ten quonset huts with two properly ventilated and outfitted prefabricated metal buildings totaling approximately 13,000 asf. The project also will improve road access to accommodate large trucks. Scripps Institution of Oceanography's (SIO) teaching and research efforts involve programs that travel to sea or remote land areas. These expeditions require specialized instrumentation, equipment, and support materials. Makeshift facilities have provided inadequate space for maintenance, calibration, and staging of materials and equipment used in these expeditions. The existing buildings are in very poor condition, including termite infestation and leaking roofs, and lack necessary ventilation. These conditions have led to the damage of sophisticated, costly equipment in the structures. In addition, insufficient space has forced storage of some equipment outdoors.

**30. Music Building .....PWCE \$ 40,135,000**

State funds are requested for preliminary plans and working drawings for the Music Building. This project will provide 47,000 asf of instructional spaces, practice rooms, group performance spaces, faculty studios, administrative support space and a 400-seat recital hall to accommodate growth of the Music Department. Total student enrollment in the Music Department is projected to increase 42 percent from 2002-03 to 2010-11. The Music Department's active teaching and performance programs have outgrown current space, and there is no expansion space available within existing facilities.

## **SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)**

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### **Biomedical Library Renovation and Addition..... E \$ 700,000**

Constructed in 1969, the 27,764 asf Biomedical Library lacks facilities adequate to support today's instructional and computing needs for the growing biological sciences disciplines and the School of Medicine. This project will add 23,300 asf of critically needed user space, renovate the existing library, and add capability to support modern information technology. The renovation will provide the necessary building wiring and infrastructure to accommodate advances in library information transfer, meet access requirements, improve lighting and HVAC systems, and improve library space efficiency.

### **Structural and Materials Engineering Building..... PWCE \$ 70,850,000**

This project will provide 110,000 asf of class laboratories, research laboratories, offices, and related support spaces to accommodate enrollment growth in the Jacobs School of Engineering. Structural Engineering will be the primary occupant, with space also being provided for Chemical Engineering, Aerospace Engineering, and similar units. The addition of this new space will allow released space in existing facilities to be assigned to other programs for their growth needs.

### **Satellite Utilities Plant Phase 2..... PWC \$ 3,990,000**

This project will supplement the work begun in the Satellite Utilities Plant Phase 1 project to meet increased campus demand for chilled water, emergency power, and improved distribution capacity. This Phase 2 project is similar to the Phase 1 project and will provide additional chillers and associated chilled water equipment and distribution systems, and additional emergency power generators.

### **Instructional Technology Building ..... PWCE \$ 32,000,000**

This project will provide 60,000 asf within the University Center to consolidate Academic Computing Services (ACS), Media Center, Teacher Education Program (TEP), and the Academic Enrichment

**SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)**

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Program. In addition, approximately 675 general assignable classroom seats will be built to provide state-of-the-art instructional services for the growing undergraduate and graduate student population at UCSD.

**Biology/Physical Sciences**

**Building ..... PWCE \$ 79,325,000**

This project will provide approximately 100,000 asf of research laboratories and office space for the Biology and Physical Sciences departments. The project will address the significant space deficit projected for these academic disciplines.



## SAN DIEGO CAMPUS OTHER CAPITAL NEEDS

### 1. Core Academic Facilities

During the period of remarkable enrollment growth in the 1980s, capital resources were focused on expansion of facilities to accommodate new students and programs. In the 1990s, the UCSD capital program focused on completing critical life safety corrections and essential renewal and modernization projects in the older buildings and infrastructure of the campus. As we approach the middle of this decade, however, demographic forces have resulted in an era of resumed enrollment growth and thus the expansion of academic and support programs, and the need for additional facilities to accommodate them. Consequently, UCSD will continue to implement a program that will address life safety and renewal needs in existing facilities, but it must be in concert with a vital component of new construction to meet growth and programmatic requirements.

**Biological and Physical Sciences:** These programs will require improved and expanded facilities to address enrollment shifts, growth, evolving academic programs, and technological advances. The Divisions of Physical Sciences and Biological Sciences plan to consolidate their laboratory-based departments and conduct the core of instruction and research activities at Revelle College. The Department of Chemistry and Biochemistry will continue improvements in Urey Hall to modernize facilities, respond to evolving safety and code issues, and address changing program requirements.

**Social Sciences:** The recently established Management School will become a global leader in management education and research. The School will respond to the growing need of California industry, especially in the high technology and biotechnology sectors. Instruction is anticipated to begin in Fall 2004, and planning is in progress on a permanent facility to accommodate this program on the North Campus.

**Arts:** As proposed new music space is constructed, vacated space will be reassigned to Visual Arts to provide adjacent expansion space for its undergraduate teaching programs.

## **SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Marine Sciences:** Assessments of the facilities and programs at the Scripps Institution of Oceanography (SIO) have defined the need for two new laboratory/research facilities in SIO's Southwest Neighborhood to meet long-term space needs for Geochemistry and related multidisciplinary programs, and for the Center for Marine Biotechnology and Biomedicine.

SIO's auditorium, Sumner Hall, is antiquated and is slated for demolition and replacement with a modern facility. In addition, several research and instruction buildings have deteriorated due to the marine environment and suffer from inadequate mechanical, air cooling, and electrical systems that cannot sufficiently support modern science. These structures require substantial renovation.

**Health Sciences:** The School of Medicine's mission includes instruction, research, patient care, and community service. Demand for modern teaching space has grown dramatically since the Basic Science Building opened in 1969. Current School of Medicine curriculum and teaching methods emphasize small group teaching and more specialized facilities, including patient simulation rooms and highly sophisticated physiological monitoring systems. The campus is planning a new Medical Education Center to address these needs. Long range plans also indicate the need for research facilities, including traditional wet laboratory buildings. The School of Medicine is actively pursuing gift and foundation support, private sector partnerships, and other alternative funding mechanisms for new research and office facilities.

### **2. Health Sciences Clinical Facilities**

The UCSD Medical Center operates hospital facilities in Hillcrest and La Jolla. A major focus of the Medical Center's capital program for the Hillcrest facility involves completing State-funded projects to correct seismic deficiencies in a multi-phased approach to comply with SB 1953 in a cost-effective manner while serving the needs of the community.

At the La Jolla campus, construction of the Cancer Center Facility that will consolidate cancer research and clinical activities will be completed in Fall 2004. In addition, plans are underway for the expansion of

## **SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)**

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ambulatory diagnostic and treatment facilities, and increasing ICU and emergency capacity at the Thornton Hospital.

### **3. Student Activities, Services, Organizations, and Recreation**

The resumption of enrollment growth has required expansion of recreational and student activity facilities. Student Affairs provides an array of programs and services to support the undergraduate population, to promote the academic and interpersonal success of students, and to enhance overall student life. Expansion is in the planning stages for the Price (student) Center and older student center facilities that are operating at full capacity, necessary to accommodate growing enrollments.

### **4. Housing**

Commensurate with undergraduate and graduate enrollment projections and the campus LRDP, UCSD plans to house 50 percent of its students in University housing located on or off the campus. Future housing projects will support this goal, primarily in conjunction with the development of new undergraduate colleges because the college system plays an important part in shaping the educational, cultural, and social experience of undergraduates at UCSD.

### **5. Other Auxiliary Enterprises**

UCSD has had a longstanding commitment to extended studies, outreach, and community service. The Institutional Technology project in the five-year program will address many needs, but others remain.

### **6. Administrative and Support Facilities**

UCSD plans to redevelop the University Center area as the hub of campus activity and student life, and nearly all of the former US Marine Corps buildings that pre-date the establishment of the campus will be demolished. Replacement space will be necessary for a number of administrative services departments. UCSD will continue to consolidate administrative service and business operations departments that have less frequent campus contact at the periphery of campus.

### **7. Utilities, Site Development, and Parking Improvements**

Maintaining an adequate information infrastructure is critical to the success of UCSD's academic programs. Systemic inadequacies in existing facilities will be resolved through a comprehensive program to complete telecommunications infrastructure where service gaps exist across the campus, upgrade the backbone of the electronic mail system, and increase the number of student access workstations.

To supplement the campus fiber-optic and broadband network, UCSD has created wireless networks in a few locations and plans to expand them throughout the campus. The combined system will support research productivity and medical diagnostics by increasing access to supercomputers and specialized databases, advancing the availability of academic research to the private sector, and broadening learning opportunities by connecting faculty, students, and staff in various locations.

To meet physical circulation and traffic safety needs, UCSD has developed a pedestrian-oriented campus interior. Additional parking structures are being planned at peripheral locations along with extended service of the campus-wide shuttle system.

To facilitate vehicular, bicycle, and pedestrian access between the School of Medicine, the Veteran's Administration Hospital, and the Thornton Hospital, the campus is planning a second bridge over Interstate 5 that will connect the main campus to the East Campus at Gilman Drive.

# SAN FRANCISCO CAMPUS

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## Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2002-2003 (ACTUAL)	3,935 FTE health sciences students
LIBRARY COLLECTION	811,580 volumes
CAMPUS LAND AREA	122 acres
CAMPUS BUILDINGS	2.9 million assignable square feet
HOSPITAL AND CLINICS	1.2 million assignable square feet

## **SAN FRANCISCO CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

The University of California, San Francisco, is a graduate health sciences campus with a 2002-03 enrollment of 3,935 students. It is a multiple-site campus, with four teaching hospital sites, two owned (at UCSF/Parnassus Heights and UCSF/Mount Zion) and two with which UCSF has longstanding affiliation agreements (Veterans Affairs Medical Center and San Francisco General Hospital). Parnassus Heights has been the principal center for teaching, research, and clinical programs, but with the growth of academic and support programs at other sites, the role of the Parnassus Heights campus is changing. UCSF's approved LRDP, which will guide campus development for another 10 years, calls for continued investment in existing sites and the development of a single major new site to consolidate some of the presently scattered locations and allow program decompression and expansion. The Mission Bay property was selected as the new site and the first parcel of land was acquired in July 1999. Development is underway at Mission Bay with the planning and construction of several major projects, the first of which was completed and occupied in 2002-03.

As one of the nation's preeminent health sciences institutions, UCSF's mission is fourfold: teaching, research, clinical care, and public service. UCSF's success in carrying out its mission has led to growth across a wide spectrum of programs such as molecular, cell, and systems biology research and clinical applications; structural biology and the design of antiviral drugs; pharmacology; retroviral research, especially on the AIDS virus (HIV); cancer; children's health and disease; aging; neuroscience; and epidemiology. These areas of growth are generating a tremendous demand for new space for research and clinical care activities and related teaching and administrative functions. Development of the Mission Bay site will be of great importance in helping to meet these needs.

At the same time, ongoing problems in existing facilities must be addressed. These problems include the need to correct obsolescence in campus building infrastructures to meet seismic, fire, and laboratory safety requirements, and to upgrade central utility, laboratory, and academic support facilities to meet the demands of modern biomedical research and teaching programs.

## **SAN FRANCISCO CAMPUS INTRODUCTION (continued)**

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UCSF faces a number of planning challenges at the central Parnassus Heights campus site. First, a serious program space deficit exists. Second, aging buildings exacerbate this space shortage. Several buildings at Parnassus are physically obsolete and/or seismically hazardous and require replacement. Many building infrastructure systems are obsolete, requiring renewal or replacement to meet utility and equipment demands as well as increasingly stringent building and fire-code requirements. Third, because the Parnassus site is so intensively developed with complex laboratory and clinical facilities, the collective demands on the central utility system for steam, electricity, and laboratory utilities require extensive upgrade and expansion. Finally, support facilities at Parnassus for materiel management and environmental health and safety are aged and deteriorated and require replacement.

The campus is addressing these challenges in the following ways:

- To address the space deficit, initial development at the new UCSF Mission Bay campus site will provide substantial new program space in the near term with significant additional development capacity planned in the long term. Programs relocating to Mission Bay from Parnassus will release space at Parnassus, which can help meet needs for program expansions.
- To address building obsolescence, UCSF has instituted a plan of ongoing replacement and upgrade of building systems to correct fire and life safety deficiencies, toxic hazards, code requirements, and infrastructure needs. UCSF also is renovating obsolete laboratory, clinical, and support space to meet the needs of program occupants more effectively.
- To remedy central campus utility system obsolescence, the campus has developed an integrated plan that began with construction of a new central utilities plant and the installation of new chillers and a cooling tower.
- To meet the concerns about seismic life safety and deteriorated support facilities, UCSF is proceeding with a program to replace or upgrade the facilities at issue.

## **SAN FRANCISCO CAMPUS INTRODUCTION (continued)**

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- To address structural seismic deficiencies in its teaching hospitals at the Parnassus site, UCSF has undertaken a major planning initiative to determine possible replacement solutions that would comply fully with SB 1953 requirements that take effect in 2030.
- To address deficiencies in buildings occupied by UCSF at San Francisco General Hospital, UCSF is working with the City and County of San Francisco on a plan to correct or replace deficient facilities.



**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**SAN FRANCISCO CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
17	Medical Sciences Building Improvements, Phase 2 (922880)	P 1,400	W 1,632	C 14,512	C 14,512			32,056
	Electrical Distribution Phase 2				P 555 P [170] X	W 849 W [213] X	C 13,409 C [2,121] X	14,813 [2,504]
	Medical Sciences Building Improvements Phase 3						P 765	15,302
	<b>CAMPUS TOTAL</b>		<u>1,632</u>	<u>14,512</u>	<u>15,067</u>	<u>849</u>	<u>14,174</u>	

**SAN FRANCISCO CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**17. Medical Sciences Building  
Improvements, Phase 2.....WC \$ 30,656,000**

State funds are requested for working drawings for an upgrade to the infrastructure of the Medical Sciences Building, a 15-story building of 224,308 asf, connected to four adjacent high-rises in the UCSF megastructure. The Medical Sciences Building has been used for health sciences instruction and research programs since its construction during the 1950s. The building heating and ventilation equipment has never been renovated, now operates poorly, and requires renewal. This project will correct existing HVAC deficiencies, convert an existing steam heat system to a more efficient hot water system, improve air distribution and cooling throughout the facility, and add capacity to the chilled water plant to serve building needs. The work scope will also correct a structural deficiency to meet required seismic standards.

**Electrical Distribution Phase 2 .....PWC \$ 14,813,000  
PWC \$ [2,504,000]X**

This project covers the second phase of a five-phase program to upgrade the Parnassus campus electrical system. The principal objective of this phase will be to enable discrete control of emergency power on each individual research-building floor. Other system improvements will address inadequacy in fault isolation and device coordination, and reduce the negative impact of electrical outages.

The project will increase the level of electrical service continuity through the automation of the electrical distribution system and

## **SAN FRANCISCO CAMPUS CAPITAL PROGRAM (cont'd)**

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modernization of building substations in the Koret Vision Research Laboratory, the Ambulatory Care Center (ACC), the Langley Porter Psychiatric Institute (LPPI), the Campus Library, the Dentistry building, and Nursing building. The project will also replace existing aged, deteriorated electrical cables with new cable sized to meet projected loads in these buildings where required, and replace and automate faulty circuit breakers.

### **Medical Sciences Building**

**Improvements Phase 3.....PWC \$ 15,302,000**

This project will build upon the work completed through Phases 1 and 2 of the Medical Sciences Building (MSB) Improvements project, completing the upgrade of the building's mechanical systems (heating, ventilation, and air conditioning) begun in the earlier projects. The project will include improved chilled water distribution, air-handling units, the heating hot water system, building management controls, and other mechanical and electrical systems.

## SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS

In accordance with the UCSF LRDP, the San Francisco campus has embarked on a multi-track major capital improvement program to solve a number of longstanding capital needs. In addition to projects presented in the campus five-year State-funded capital improvement program, over the next decade UCSF will pursue solutions to the most important facility improvement objectives described below:

### 1. Core Academic Facilities

**Mission Bay Site Development:** As proposed in the UCSF LRDP, a total of 43 acres of land in the Mission Bay area of San Francisco is being donated and transferred in phases to The Regents to create a new campus site for UCSF research and instruction. An initial phase of 26 acres is being developed with the planning and construction of major new buildings, landscaping, infrastructure, and parking. The new campus will, over the next two decades, ultimately accommodate 2.65 million sq ft of development, plus parking. Toward this goal, UCSF is now constructing three biomedical research buildings, a new campus community center, housing, and parking (both surface and structured).

**Parnassus Site Research Laboratory Building Improvements:** The campus research capabilities at the Parnassus site are constrained by obsolete facilities, which have not been able to keep up with current and projected requirements of a rapidly evolving research enterprise. In spite of significant progress made in upgrading buildings, many laboratory buildings on the Parnassus site have aging infrastructures that require substantial upgrade to meet capacity and performance requirements of modern research. Capital needs for research facilities include major improvements of such essential elements as fire and life safety, fume hood and building air supply, electrical capacity and distribution, heat reduction, and environmental controls for equipment and occupants. Projects must be carefully planned to optimize investment, coordinate work across multiple buildings, and limit

## **SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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disruption for faculty and students. Also space released at Parnassus from the move of biomedical research to the Mission Bay campus will be renovated and re-assigned to existing and new programs.

### **2. Health Sciences Clinical Facilities**

**Medical Center Renovations at Parnassus:** Clinical care space requires improvements to house new imaging equipment, expand surgery and recovery areas, accommodate new interventional therapeutic procedures, and meet code requirements. Future projects will continue the renovation program for Moffitt Hospital patient care and other units in response to rapid changes in managed care and their impact on traditional clinical in-patient facilities, with special attention to increasing the percentage of beds devoted to intensive care units. The expansion of academic and acute care programs related to increased in-patient activity will permit wider training opportunities for UCSF students and increase the effectiveness of the UCSF Medical Center in the managed care market.

**Medical Center Renovations at Mount Zion:** Much of the short-range development program for Mount Zion has been accomplished with the completion of a research building, two medical office buildings, and a five-story Outpatient Cancer Center into which existing outpatient clinics have been relocated. Improvements to existing inpatient buildings are pending completion of extensive review of needs, financial issues, and seismic-safety requirements for acute care hospitals mandated by the Alquist Hospital Facilities Seismic Safety Act (SB 1953—see Section 5 below), that significantly affect program plans at Mount Zion.

### **3. Auxiliary Enterprise Facilities**

**Campus Housing at Parnassus:** UCSF faces a critical housing shortage for students, junior faculty, clinical residents, and staff which has been difficult to satisfy because of the high cost of housing construction and limited campus site capacity. In the past several years, UCSF has converted more than 30 houses along Third and Fifth Avenues and Kirkham Street from administrative and academic offices to residential use. Six remaining houses near the Parnassus site will either be converted to faculty family houses or demolished and the sites

## **SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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used to build new studio apartments for students, residents and post-doctoral fellows.

**Campus Housing at Mission Bay:** To meet the LRDP target of providing housing for 20 to 25 percent of its future projected student enrollment, UCSF is developing new housing at Mission Bay. UCSF will also investigate future development of affordable housing for junior faculty, clinical residents, and staff.

#### **4. Utilities, Site Development, Life Safety, Open Space, Transportation, and Parking**

**Site and Infrastructure Improvements at Parnassus:** Many of the campus utility distribution systems and building infrastructure systems are aged beyond their useful life and insufficient to meet current needs. While construction of the Central Utility Plant has added significant electrical and steam capacity, the Parnassus campus needs other improvements to its utility systems—including electrical, voice/data communications, steam, water, chilled water, and other service systems—in order to renew and supply sufficient capacity.

**Fire Protection and Life Safety:** In response to fire and life safety needs and code requirements, a program of building improvements will upgrade general safety for faculty, students and staff in laboratories and teaching spaces at the Parnassus campus.

**Open Space Reserve Improvements:** A long-term management plan for UCSF's forested Mount Sutro open space reserve was completed in 2001. Proposed improvements will be gradually implemented in phases.

**Transportation and Parking Improvements:** The many dispersed facilities of the UCSF multi-site campus and their busy urban settings result in significant access and circulation problems. An extensive shuttle bus system currently serves and connects UCSF's sites and will be expanded to serve Mission Bay. Improvements to parking and transportation systems will provide better movement to and between several key campus sites. UCSF has begun two new parking structure projects for the new campus site at Mission Bay, in addition to new surface parking lots.

### **5. Corrections for Seismic Safety**

**Seismic Upgrade of Facilities:** The correction or demolition of all remaining seismic hazards is a high priority for UCSF. The demolition of seismically unsound buildings at Parnassus will provide sites for some new construction, but will also reduce overall campus built space.

UCSF is implementing its plans to address the identified major seismic life safety hazards in academic facilities at Parnassus.

UCSF Medical Center clinical facilities at both the Parnassus and Mount Zion sites need structural and nonstructural seismic improvements to comply with SB 1953 requirements. Improvements to comply with the 2002 requirements of SB 1953 have been completed at both sites, and State funds have been provided to address 2008 requirements at the Parnassus site. Further long-term improvements required to comply with SB 1953 requirements for 2030 are being evaluated and are expected to be significant in scope and cost.

UCSF leases several older masonry buildings at San Francisco General Hospital that are used for research laboratories and offices, but which are seismically unsound. The campus is developing plans in coordination with SFGH to correct the seismic deficiencies or provide alternative facility solutions.





# SANTA BARBARA CAMPUS

## Capital Improvement Program

ESTABLISHED	1944
ENROLLMENT 2002-2003 (ACTUAL)	18,238 FTE undergraduates 2,844 graduate students
LIBRARY COLLECTION	2.8 million volumes
CAMPUS LAND AREA	815 acres
CAMPUS BUILDINGS	3.4 million assignable square feet

## **SANTA BARBARA CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Since relocating to the current campus in 1950, UCSB has grown from a small teachers' college to a world-class teaching and research university. From 75 small World War II barracks, the campus now occupies over 3.4 million assignable square feet. During the 1990s, the physical face of UCSB underwent significant changes. In response to a decade of enrollment and program expansion, six new buildings were completed, including two State-funded major academic facilities. Currently, a science and an engineering building are under construction and additions to two other instruction and research buildings are due to start construction during the 2003-04 year. Seven buildings on campus have had much of their infrastructure renewed, and over the next five years seismic corrections will be completed on the last of the state-supported academic buildings rated seismically "Poor". In 2003-04 the campus will be completing the design phase of a large instruction and research complex, that will be addressing the needs of 21 academic units. While these improvements greatly benefit the students, faculty and staff at UCSB, the age and quality of many existing campus instructional and research buildings and existing infrastructure are of particular concern to the campus. Of the 1,300,000 asf devoted to instruction and research, three-fourths of the space is at least 25 years old, and one-fourth is more than 40 years old.

The Colleges of Letters and Science, Engineering, Creative Studies, the Graduate School of Education, and the Donald Bren School of Environmental Science and Management provide undergraduate and graduate education for over 19,000 FTE students enrolled at UCSB. New projections show that by 2010-11, total enrollment at UCSB is anticipated to grow to 22,685 FTE. Growth will be accommodated largely through summer and off-campus programs. Increases in enrollment, changes in instructional and research technology, and development of new programs and new ways to manage information will require new and improved facilities for all academic disciplines, and academic support units such as the Library. Also critical to Santa Barbara's future is providing affordable housing for faculty and staff.

## **SANTA BARBARA CAMPUS INTRODUCTION (continued)**

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Three principal factors drive the capital needs of UCSB: academic planning, the campus physical environment, and the LRDP.

**Academic Planning:** Most of UCSB's attention will be focused on improving instructional resources, developing undergraduate and graduate programs, and expanding and improving the quality of research. Multidisciplinary efforts are the focus for teaching and research initiatives in all disciplines. The campus is especially committed to expanding knowledge associated with materials science, marine science, internationalization, technological and scientific change, and population diversity. The establishment of the Bren School of Environmental Sciences and Management is a major step forward toward meeting these academic goals. Other areas targeted for new and expanded program development include: education, biotechnology, nanofabrication, film studies, communication, digital media, business, computer science, earth sciences, and cultural studies from both humanistic and social science perspectives.

**Physical Planning:** A majority of the permanent instruction and research buildings on the campus were constructed before 1972. While new facilities have been built and some of the older facilities have been upgraded since construction, the ability of the remainder to meet current academic needs is compromised. Aging infrastructure and changes in life safety codes have reduced the ability of several buildings to accommodate modern research and instruction programs. As funding opportunities arise, the facilities will be upgraded. Outdated temporary buildings, including barracks dating from 1943 which house approximately 130,000 asf of academic space, will be removed as new space becomes available.

Another important aspect of physical planning at UCSB is preserving and enhancing its unique environment, architecture, open space and campus circulation. In recent years, the campus has made improvements to campus circulation for vehicle and bicycle traffic, and has removed a number of temporary structures. However, the recent and projected increases in population combined with the construction of new facilities is putting a strain on existing road and bike systems.

**Long Range Development Plan:** The 1990 LRDP is based on a future three-quarter headcount campus enrollment of 20,000 students (equivalent to 19,400 FTE) and has provided the framework for capital and physical development on the campus. With the resumption of growth, the campus is

## **SANTA BARBARA CAMPUS INTRODUCTION (continued)**

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reassessing the 1990 LRDP to update areas of the plan to meet projected facility needs associated with population and program expansion.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**SANTA BARBARA CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
--	Psychology Building Addition and Renewal (981130)	P [397] U P [138] X W 476 W [124] X C 9,817 C [2,020] X	E 410					10,703 [2,679]
5	Biological Sciences Buildings Renovation (988620)	P 500 W 500	C 9,691					10,691
7	Education and Social Sciences Building (981240)	P 1,747 P [254] G W 2,369 W [346] G	C 49,706 C [7,232] G		E 2,432 E [218] G			56,254 [8,050]
19	Electrical Infrastructure Renewal Phase 2	P [410] X	W 400 C 6,905	W [310] X	C 5,607 C [2,097] X			12,912 [2,817]
	Snidecor Hall Office Wing Seismic Replacement (988700)	P 496 P [10] X W 682 W [50] X C 10,566 C [705] X		E 536				12,280 [765]
	Davidson Library Addition (981230)			P 1,225	W 1,225	C 28,500		34,950
	Humanities, Sciences, and Social Sciences Renovations (980910)				P 350 W 350	C 6,400		7,100
	Arts Building Seismic Corrections and Renewal (988720)				P 510	W 610	C 8,750	9,870
	Emergency Response Facilities Improvements					P 250	W 300	6,620
	Mesa Road Realignment (966014)						P 230	6,700
	<b>CAMPUS TOTAL</b>		<b>67,112 [7,232]</b>	<b>1,761 [310]</b>	<b>10,474 [2,315]</b>	<b>35,760</b>	<b>9,280</b>	

**SANTA BARBARA CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**-- Psychology Building  
Addition and Renewal..... E \$ 410,000**

State funds are requested for equipment for the Psychology Building Addition and Renewal project. This project will address the enrollment growth needs of the Psychology Department, replace important instruction and research space that is housed in dilapidated World War II barracks, and upgrade and renew the existing Psychology Building (Building 551), which was constructed in 1963. The project will construct a 17,045 asf addition to the existing Psychology Building, and will renovate approximately 7,600 asf and renew major infrastructure systems in Building 551. The addition will house specialized teaching labs, all faculty and administrative offices, and office-based scholarly activity. Utility-intensive research facilities will be consolidated in Building 551.

**5. Biological Sciences  
Buildings Renovation..... C \$ 9,691,000**

State funds are requested for construction of the Biological Sciences Buildings Renovation project. The project will renew Noble Hall, built in 1960 and one of the primary campus instruction and research facilities for the biological sciences. The project also will correct code deficiencies in the Biological Sciences 2 building, which was constructed in 1966. In Noble Hall the project will renew and upgrade outdated and inadequate infrastructure systems, renovate laboratory and office space, strengthen limited areas of structural weakness, and perform mandatory code and life safety corrections. In Biological Sciences 2, the project will correct fire and life safety and other code deficiencies.

**SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)**

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- 7. Education and Social Sciences Building..... CE \$ 52,138,000**  
**CE [\$7,450,000]G**

State funds are requested for construction of the Education and Social Sciences Building. Prior and projected enrollment growth will require expansion of instruction and research facilities for all disciplines. This project will construct an approximately 119,880 asf building with facilities for instruction, research and support, office space, clinic and demonstration, and a film theater. The building will house academic units in the social sciences and humanities and the Graduate School of Education, and release existing academic space that will be used to meet instruction and research needs for other departments in the sciences, engineering, social sciences and humanities.

- 19. Electrical Infrastructure**  
**Renewal Phase 2.....WC \$ 12,912,000**  
**WC [\$2,407,000]X**

State funds are requested for working drawings and construction of the Electrical Infrastructure Renewal Phase 2 project. The project will renew and replace the existing 16 kV and 4 kV electrical infrastructure system with a modern 12.47 kV distribution system. Also, the project will provide updated cables, switches and a second new 12.47 kV transformer to ensure reliable power and added capacity to meet the current and future needs of the Campus.

- Snidecor Hall Office Wing**  
**Seismic Replacement ..... E \$ 536,000**

Snidecor Hall received a seismic rating of “Poor” (DGS level V) in 1992. The theater wing was seismically corrected in 1998. The office wing was found to have asbestos throughout the ceilings, walls, and ventilating system. After extensive evaluation it was determined to be more cost effective to replace the office wing than to correct the seismic deficiencies. This project will demolish the existing 14,435 asf office wing and replace it with a 22,498 asf building. The new building will address the expanded instruction and research needs of the Department of Dramatic Arts occasioned by enrollment growth, and will include two general assignment classrooms

**SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)**

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**Davidson Library Addition..... PWCE \$ 34,950,000**

The campus has not constructed new library facilities since the mid-1970s. While new technology is addressing many requirements, the humanities and social sciences continue to rely on large print collections in the central library to meet their academic needs. The current facility is highly overcrowded, cannot accommodate new technology, and lacks sufficient student instructional and study space. To meet demand, in addition to utilizing the Regional Libraries, the campus has leased over 25,000 asf of space off-campus. This project will construct new library facilities of approximately 65,000 asf and renovate the oldest section of the existing Library.

**Humanities, Sciences and Social.....PWC \$ 7,100,000  
Sciences Renovation**

This project will renovate space released as a result of completion of the new Education and Social Sciences Building and is part of the campus overall space plan to address critical space needs of departments and programs in the sciences, humanities and social sciences. Released space in Phelps Hall will be used to increase computer and teaching laboratory space for students and provide needed offices, teaching and research space for departments in the sciences and humanities. Space released in Ellison Hall will be used to meet the needs of Geography and other instructional and research programs affected by planned campus enrollment growth. Finally, space released in South Hall and the Humanities and Social Sciences Building, by units moving to the renovated Phelps and Ellison Halls will be renovated to meet the growth needs of Humanities and Social Sciences Departments.

**Arts Building Seismic  
Corrections and Renewal..... PWC \$ 9,870,000**

The Arts Building Seismic Corrections and Renewal project will upgrade the seismic rating of the Arts Building from “Poor” (DGS Level V) to “Good”. The Arts Building was constructed in 1957 and its infrastructure systems, including electrical and HVAC, are in need of renewal. The project will also correct fire and life safety and accessibility deficiencies. Approximately 3,000 asf of existing space will



## **SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)**

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be renovated to meet the instruction and research needs of the Departments of Art Studio and History of Art and Architecture.

### **Emergency Response**

**Facilities Improvements..... PWCE \$ 6,620,000**

This project will add approximately 6,000 asf and renovate approximately 5,000 asf in Building 574. Building 574 was constructed in 1967 and currently houses the campus communications and emergency response operations. These units are highly overcrowded, some functions are housed in run-down trailers, and the existing facility is unable to accommodate needed new technology. The addition and renovation will improve campus emergency response and public safety communications.

**Mesa Road Realignment..... PWC \$ 6, 700,000**

Mesa Road, currently extending easterly from Los Carneros Road to the junction of University Road and Ocean Road, will be realigned and widened for use as the main east-west campus artery. The realignment of Mesa Road will correct current circulation problems by intercepting traffic bound to the campus on Los Carneros Road and circulating the traffic on to Mesa Road rather than El Colegio. East-west circulation through the campus serves not only campus personnel, but also is heavily used by Isla Vista residents and visitors traveling to and from Santa Barbara. The lack of a direct route results in traffic back-ups at peak times at the East Gate and unsafe pedestrian crossing conditions at many locations.

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS**

### **1. Core Academic Facilities**

The academic direction of the Santa Barbara campus emphasizes continual improvement and strengthening of individual departments, while promoting multidisciplinary development to benefit both undergraduate and graduate students. As direction of a particular field shifts and its technology evolves, its programs experience significant changes as well. This results in pressure on existing facilities to meet new and more intensive functional requirements. In addition, the campus is facing severe space shortages from current and projected enrollment growth.

Recent new construction and renovation are addressing a variety of academic needs. However, many existing academic facilities, particularly in the sciences and fine arts are over 40 years old, in poor condition and functionally obsolete for the current and anticipated needs of the programs they house. In addition, over 130,000 asf of instructional and research space is contained in a combination of World War II Barracks and temporary structures that require replacement. Such facilities seriously constrain teaching and research and the continuing development of academic programs.

Graduate programs need sophisticated laboratories, supportive scholarly activity facilities, additional office space, and extensive library support and information systems. Many new academic program initiatives develop from small student/faculty research efforts, and are important to the academic growth and quality of the campus. These initiatives often require specialized facilities.

### **2. Auxiliary Enterprise Facilities**

Improved and expanded space is needed for auxiliary enterprise facilities which accommodate student services, housing, social, and recreational programs. Recent University projections show campus enrollment growing to 22,685 FTE by 2010-11, including summer and off-campus enrollment. The need for affordable faculty and staff

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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housing has become critical as recently retired faculty are replaced and the median home price in Santa Barbara has climbed to over \$800,000. Faculty and staff are increasingly having to find housing at distant locations, some as far as one to two hours from the campus. Dispersed housing increases commuting, intensifies traffic congestion, worsens air quality, and requires more on-campus parking. To address this need, the campus is proceeding with planning for faculty housing on the newly acquired North Campus and is exploring other potential joint venture arrangements with private developers. The campus hopes to develop these units over the next five to ten years.

In the Fall of 2002, the campus opened a new 800-bed undergraduate student housing complex. This was the first new housing to be constructed since the 1980s. A 976-bed apartment complex for graduate students is in schematic design and a 144-unit family housing complex is in the planning stage. These developments will help the campus to meet its goal of housing 30-35 percent of its students in University-owned facilities.

### **3. Utilities, Site Development, Transportation and Parking Improvements**

**Utilities:** The campus utilities network has been and will continue to be expanded to serve the campus population and new buildings. Existing water, storm drainage, and communications lines will be extended in conjunction with expanded roadway, bicycle, and pedestrian routes to serve new development. The campus is currently in the process of replacing the main sewer lines and pump stations and electrical infrastructure system. Currently under study are the campus storm drain system and gas distribution system. Inadequacies in both systems have been identified that will require improvements.

**Site Development:** The campus borders the Pacific Ocean on the east and south and the Goleta Slough on the north, and adjoins several environmentally sensitive wetlands. Erosion of ocean bluff tops due to natural events and storm drain run-off is a serious concern and options to slow erosion are being examined. The campus has been working with its own faculty and local habitat restoration groups to restore bluffs bordering the Goleta Slough and Lagoon. As resources are available, and in accordance with the LRDP, an area that formerly held

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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temporary structures on the west side of the main campus will be developed for campus open space use and wetlands restoration.

**Transportation and Circulation:** The increase in campus population experienced over the past decade has seriously strained the existing network of vehicular, bicycle and pedestrian circulation systems. Five primary objectives for the improvement of campus circulation are to:

- Provide safe and convenient parking facilities for students, faculty, staff and visitors.
- Accommodate on-campus vehicular traffic between Isla Vista and other locations east of the campus with minimal disruption of campus activities.
- Introduce greater clarity into the roadway network and a better sense of orientation to the campus.
- Improve and expand the existing bicycle system by repaving, separating paths to ease pedestrian crossings, realigning paths to create improved flow, adding new segments and increasing bicycle parking lots.
- Design a pedestrian-oriented academic core.

Implementation of the campus long-term circulation plan is underway with the completion of the first campus parking structure and the realignment of the eastern section of Mesa Road. Additional road improvements necessary to address campus growth are in planning. Two additional parking structures are moving forward that will address the spaces lost due to construction and allow for moderate growth in the number of overall parking spaces. An important component of planning is the use of transportation management alternatives.

The bicycle is an essential alternative to automobile use at UCSB and over 18,000 currently are used daily on campus. The existing bike route network will be expanded in conjunction with development of new buildings and extension of the roadways.

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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Pedestrian access to and within the campus and Isla Vista is well established. Additional improvements are being and will continue to be made to the network to improve safety, to link up poorly served areas of the main campus, and to improve coastal access.

### **4. Code Corrections**

As building and health and safety codes evolve and change, compliance is becoming more complex and costly, requiring the campus to increase its investment in improvements. Corrective code work for accessibility and fire and life safety will be an integral part of capital improvements.

### **5. Seismic Safety Code Corrections**

All State-supported campus structures that had been identified in the past as seismically “Poor” or “Very Poor” either have been upgraded to “Good” or are included in the current five-year State-funded capital program. Design is underway for upgrades to non-State-supported facilities identified as seismically deficient, and corrections will be completed within the next three to five years.



# SANTA CRUZ CAMPUS

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## Capital Improvement Program

ESTABLISHED	1965
ENROLLMENT 2002-2003 (ACTUAL)	12,395 FTE undergraduates 1,271 graduate students
LIBRARY COLLECTION	1.4 million volumes
CAMPUS LAND AREA	2,000 acres
CAMPUS BUILDINGS	3.1 million assignable square feet

## **SANTA CRUZ CAMPUS 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Since it opened in 1965, the University of California, Santa Cruz has won a distinctive position within the UC system as a campus devoted to excellence in undergraduate education as well as graduate studies and research. The residential college is an important part of the Santa Cruz experience. The colleges divide a large university into smaller communities, each serving as a social and intellectual gathering place for about 1,000 students and 30 to 100 faculty fellows from a variety of academic disciplines.

Campus enrollment in 2002-03 was 13,666 FTE students, including 1,271 graduate students. Current capital planning is based on enrollments increasing to 17,565 FTE by 2008-09.

The campus Space Plan and the 1988 LRDP reflect a planned future enrollment of 15,000 students. These documents were supplemented by the LRDP Implementation Program and the Campus Transportation Implementation Plan, completed in 1994 and 1996 respectively. The latter documents considered the general guidance provided by the LRDP in relation to specific decisions that must be made in order to size, site, and design new facilities and infrastructure. The campus is currently proceeding with an update to the 1988 LRDP.

The campus offers a full range of major programs within the arts, humanities, engineering, natural sciences, and social sciences, as well as a number of interdisciplinary-major programs. In graduate study, 27 academic fields lead to awards of M.A., M.S., or Ph.D. degrees.

Despite its status as one of the younger campuses within the UC system, Santa Cruz has been recognized nationally for the quality of its undergraduate and graduate programs, its commitment to undergraduate instruction, and its research.

The campus is currently moving forward with a number of new initiatives, including programs in Digital Arts and the Center for Justice and Tolerance, and further developing the School of Engineering that was established in



## **SANTA CRUZ CAMPUS INTRODUCTION (continued)**

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July 1997. With this new School, the campus is poised to assume a critical role in training the skilled engineering workforce that will drive the economies of Silicon Valley, the Monterey Bay region, and the State in the 21st century.

As part of its efforts in the Silicon Valley and Santa Clara County, the campus is planning the development of the Silicon Valley Center (SVC). The Center is an important element in the University's long-range planning efforts to develop education and research opportunities for students and faculty; develop higher education partnerships within the UC system and with the California State University and the California Community Colleges; expand outreach programs with K-12 schools and students; and increase collaborative research with industry.

To sustain this progress in achieving its mission, however, the campus must address a number of capital program issues. Accordingly, priorities for the State capital improvement budget must consider projects for:

- **Instruction and research:** As programs evolved, especially in the last decade, a shortage of space developed in virtually all campus programs. Recent projects have addressed some of those needs, but space shortages remain, particularly in the sciences, engineering, and information technology. Enrollment growth in recent years means the campus again is faced with a serious shortage of space and limited flexibility for a number of academic programs.
- **Renewal of existing facilities and infrastructure:** The campus is over 35 years old. The urgent need for renewal of existing facilities and infrastructure in response to changing academic programs, building health and safety requirements, seismic corrections, and obsolescence will have a strong influence on campus capital planning. Improvements are required not only for buildings but also for the campus fire alarm, sewer, water (cooling, fire protection, and domestic), electrical, and drainage systems. While the campus has made progress in migrating from older underground cable to modern fiber optic technologies, other campus infrastructure projects to implement high-speed network capabilities will be needed to build upon that initial effort.
- **Circulation infrastructure:** It was clear from the LRDP and subsequent planning efforts that the development of an adequate

## **SANTA CRUZ CAMPUS INTRODUCTION (continued)**

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University campus circulation infrastructure is essential. The Santa Cruz campus occupies 2,000 acres, with the developed central campus (consisting of the colleges and most of the academic buildings) comprising about 400 acres. The hillside setting of the campus—with a 900-foot change in elevation—challenges planners. At no other UC campus is the topography so pronounced: the changes in elevation, many ravines, and trees create the need for a coordinated system of pedestrian and automobile bridges, roads, and pathways to provide more direct and efficient routes throughout the campus. This network remains incomplete and is further strained under the weight of expanded enrollment.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**SANTA CRUZ CAMPUS**

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2004-05	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2005-06	2006-07	2007-08	2008-09	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
6	Alterations for Engineering, Phase 2 (973030)	P 197 W 199	C 4,002					4,398
15	McHenry Addition and Renovation (970948)							
	Ph 1: Library Addition	P 1,906	W 1,461	C 32,002		E 1,520		36,889
	Ph 2A: Seismic & ADA Improvements	P 682			W 544	C 11,863		13,089
	Ph 2B: Fire Life Safety Improvements/Library Renovations	P 519			W 510	C 10,998		12,027
	Ph 2C: I&R Renovations/Library Addition Completion	P 495			W 528	C 12,045	E 309	13,377
22	Seismic Corrections Phase 3 (971090)	P [351] X	W 425 C 7,089					7,514 [351]
27	Alterations for Engineering Phase 3 (973040)		P 190 W 199	C 3,942				4,331
29	Digital Arts Facility (970450)		P 1,330	W 841	C 17,500	E 1,000		20,671
	Humanities and Social Sciences Facility (971030)	P 1,479 W 1,146 C 24,680		E 2,000				29,305
	Infrastructure Improvements			P 465	W 345 C 9,315			10,125
	Biomedical Sciences Facility				P 3,380	W 2,500	C 58,570	66,450
	Silicon Valley Center (973000)					P 255	W 670 C 1,400	20,404
	Social Sciences Facility						P 1,980	34,000
	Environmental Health and Safety Facility						P 607	9,356
	<b>CAMPUS TOTAL</b>		<b>14,696</b>	<b>39,250</b>	<b>32,122</b>	<b>40,181</b>	<b>63,536</b>	

**SANTA CRUZ CAMPUS  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**6. Alterations for Engineering, Phase 2 ..... C \$ 4,002,000**

State funds are requested to construct the Alterations for Engineering, Phase 2 project. This project continues alterations within the Baskin Engineering Building to support reassignments within the School of Engineering facilities. Approximately 8,700 asf released by Environmental Toxicology once the Physical Sciences Building is completed will be renovated for Biomolecular Engineering and Electrical Engineering. The project will also improve fire safety throughout the building and provide emergency power to the School of Engineering's central computer rooms.

**15. McHenry Addition and Renovation**

- Phase 1: Library Addition .....WCE \$ 34,983,000**
- Phase 2A: Seismic & ADA  
Improvements .....WC \$ 12,407,000**
- Phase 2B: Fire Life Safety Improvements/  
Library Renovations.....WC \$ 11,508,000**
- Phase 2C: I&R Renovations/Library  
Addition Completion .....WCE \$ 12,882,000**

State funds are requested to prepare working drawings for Phase 1 of the McHenry Project. This project consists of four phases of work to increase space for the Library, seismically upgrade the existing seismically "Poor" (DGS level V) McHenry Library building to a "Good" rating, renovate existing library space, and provide instruction and research space to accommodate growth in campus enrollment.

The first phase will construct an 81,600 asf (116,550 gsf) addition to the existing McHenry Library. When existing Library functions have relocated from the existing building into this new addition, the older building of 114,830 asf will receive seismic, ADA, and other life safety improvements, along with programmatic renovations (Phases 2A and

## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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2B). The final part of this project (Phase 2C) is to complete the fit-out of the addition in areas occupied by interim uses during the renovation of the existing building.

The seismic retrofit of the existing building will address perimeter walls and shear walls that do not adequately resist seismic forces, numerous discontinuous shear walls, and weak connections in the roof diaphragm and elsewhere. The existing building also will be renovated to house instruction and research space as well as library functions and services. With the new addition and the renovation, the McHenry Project will provide additional space for the Library, Mathematics Department, Art History Department and Interdisciplinary Graduate Program in Arts, the Writing Program, Instructional Development Support, and campus-wide academic offices. Eventually, the Library will occupy the entire facility.

### **22. Seismic Corrections Phase 3 .....WC \$ 7,514,000**

State funds are requested to prepare working drawings and to construct the Seismic Corrections Phase 3 project. This project will correct four seismically deficient buildings—Stevenson College Academic Building, the Cookhouse, Barn H, and (with associated campus funding) Hahn Student Services—all of which are rated seismically “Poor” (DGS level V) and represent serious life safety hazards.

The Stevenson Academic Building's original concrete moment frame structure has poor reinforcement, inadequate ductility, weak connections between structural elements, and the roof lacks an effective diaphragm to tie its two separate sections together. Structural hazards in the Cookhouse are related to inadequate connections between primary structural elements and a weak or incomplete load path for seismic forces in several other areas. Hahn Student Services has several structural deficiencies including insufficient strength and connections to transfer forces from the upper story. There are a number of deficiencies in Barn H, including the discontinuity between the old main structure and the newer western addition.

## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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Planned corrections for this project will address hazardous conditions and strengthen the seismic resistance of each structure to achieve a rating of “Good”. Mandatory code upgrades also will be completed.

### **27. Alterations for Engineering Phase 3 .....PWC \$ 4,331,000**

State funds are requested to prepare preliminary plans and working drawings for the Alterations for Engineering Phase 3 project. This project continues alterations within the Baskin Engineering Building to support the expansion of School of Engineering programs. Once the new Engineering Building project is completed, functions that can use adaptable, flexible space that is heavily wired for data communications will be moved there. The existing Baskin Engineering Building will be used for utility-intensive wet-bench activities. Approximately 8,000 asf of the released space will be renovated to support Biomolecular Engineering and Electrical Engineering specialized research laboratories and associated support space. The project will also provide upgrades to the air handling and other building systems.

### **29. Digital Arts Facility ..... PWCE \$ 20,671,000**

State funds are requested to prepare preliminary plans for the Digital Arts Facility. This facility will construct approximately 25,600 asf of office, research, and teaching space for Arts Division programs. The project will help solve existing space deficiencies and provide for enrollment and program growth in the Arts Division, including the new Digital Arts and New Media (DANM) graduate program. In Northern California, the multimedia industry is leading the world in cutting-edge new digital media technology and has been a driving force in California’s economic recovery. The continued success of this industry depends on a highly skilled workforce that merges technical and artistic capabilities. Interactive digital media employment is now part of every industry—from health care to finance. DANM includes research relating to advances in information technologies including: scientific visualization where vision, sound and touch are used to understand data; computer simulations that incorporate the body’s presence, movement and proximity with computer processes; construction of environments; utilization of genetic programming to create software for cinematic scenarios; 3D computer modeling and animation with sound manipulation and design; research on animal

## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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anatomy to design organic movements in 3D media; and speech synthesis and language tutoring. This new facility (approximately 24,500 asf) located south of Elena Baskin Visual Arts Complex will house DANM, Visual Art, Music, and Theater Arts. A small addition (approximately 1,100 asf) will be added to the Theater Arts Complex for Theater Arts functions. Most of the released space created by this project will be assigned to Arts Division programs to address existing deficiencies..

### **Humanities and Social Sciences Facility ..... E \$ 2,000,000**

This project will provide space to meet academic needs resulting from current space shortages and from the impact of rapid growth in campus enrollment. The project will construct a facility of approximately 51,140 asf to be located at Cowell College that will include offices and teaching and research space for humanities programs and the Education Department, and general assignment classroom space. Space released in existing buildings for this project will be reassigned to address space deficiencies in the social sciences, arts, and natural sciences.

### **Infrastructure Improvements ..... PWC \$ 10,125,000**

Most of the infrastructure on the Santa Cruz campus has been in place since the mid-1960s and is in need of renewal and expansion, particularly with the major increase in campus population and development resulting from enrollment growth. Storm water drainage, water, electricity, natural gas, cooling and heating water, sewer, and communications systems will be improved by this multiphased program.

### **Biomedical Sciences Facility..... PWCE \$ 66,450,000**

This project will construct a facility of approximately 60,000 asf to address existing space shortages and projected enrollment growth in the sciences and engineering. Recent technological advances (such as the decoding of the human genome), an aging population, the identification of new environmental and inherited health risks, and the emergence of new infectious diseases are all driving biomedical sciences to advance at an unprecedented pace. This project will provide

## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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interdisciplinary wet laboratory space and core specialized facilities requiring heavy utility infrastructure for scientists concentrating in health and medical issues from Molecular and Cellular Biology, Chemistry, Environmental Toxicology, and Biomolecular Engineering.

### **Silicon Valley Center..... PWCE \$ 20,404,000**

A new off-campus Center is being developed in the Santa Clara Valley to address demand and spur development of collaborative programs with local educational institutions and industry. Programs at the Silicon Valley Center will address several significant statewide and regional needs. The demand for this Center is driven by: (1) a significant research and public service agenda of mutual interest to Silicon Valley, the University of California, and the State; (2) the projected surge in UC enrollment demand over the next ten years; (3) the growing and increasingly diverse high school student body in the Santa Clara Valley region; (4) the growing education and work force gap; and (5) the rising demand for UC programs in Silicon Valley, in a period when new directions in technological innovation are needed to spur renewed economic growth.

### **Social Sciences Facility ..... PWCE \$ 34,000,000**

This project will provide space to meet the needs resulting from serious existing space deficiencies and from projected enrollment increases, particularly in social sciences disciplines. The project will construct a facility of approximately 50,000 asf that will include teaching and research space and offices for the Economics and Education departments and the Social Sciences Division. Released space resulting from this project will benefit Engineering, Psychology, Anthropology, other Social Sciences programs, and the Humanities. Housing apartment space has been used to meet this need temporarily and will be returned to Housing operations.

### **Environmental Health and Safety Facility .....PWC \$ 9,356,000**

Existing campus facilities for handling hazardous wastes are inadequate, do not meet current health and safety codes, and cannot accommodate workload increases associated with projected growth.



## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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Hazardous and radioactive waste storage and staging space, a laboratory, and technical and administrative support space are planned in a facility of approximately 10,000 asf in the Science Hill area.

## SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS

### 1. Core Academic Facilities

**Physical and Biological Sciences and Engineering:** Physical and biological science programs at Santa Cruz have evolved and grown in quality and enrollment, as have engineering programs. New facilities have been provided, but additional facilities are needed and the campus is still in the process of consolidating programs and making necessary improvements in the older sciences buildings. The level of enrollment projected also will require new space for Environmental Sciences, Astronomy, Physics, Earth Sciences, and Ocean Sciences.

Long Marine Laboratory, located on the Monterey Bay coast, has completed two new gift-funded facilities, but an addition to the Ocean Health Building is needed to provide the laboratories necessary for research and for teaching undergraduate and graduate students the most modern methods of sampling, testing, identifying, and evaluating substances and compounds. In addition, the infrastructure needs to be expanded and improved to support continued development of the 100-acre marine sciences complex for UC and other research partners.

**Residential Colleges:** The colleges at Santa Cruz provide an important living/learning context for undergraduates as well as being the location of most of the academic facilities for the Humanities and Social Sciences instruction and research programs. College academic facilities provide space for classrooms, faculty and administrative offices, and support facilities for Social Sciences and Humanities programs. The campus LRDP calls for expansion over time of the ten existing colleges to support future enrollment.

**The Arts:** Arts programs at Santa Cruz have grown rapidly over the past decade, and an array of supporting facilities are required to meet current needs as well as the continued growth of programs and enrollment. Of particular importance are special performance facilities for mixed uses. The Music program would benefit substantially by the addition of a concert hall of 800-1,500 seats for student and faculty academic programs as well as a University guest

## **SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)**

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artist series, University non-music convocations and lectures, and community-based music performance organizations. A University Art Gallery to support art programs will be developed as a central function among the University's future cultural facilities. An area in the academic core has been identified as a location for a gift-funded concert hall and a gift-funded art gallery.

**Classrooms:** General assignment classrooms must be included in new academic buildings to be constructed as enrollment grows. The classrooms provided in specific projects will be planned to maintain a balance between class sizes and room sizes as the campus academic programs develop.

### **2. Administrative and Student Support Facilities**

Existing administrative space is inadequate and scattered throughout the campus and in leased space off-campus. Although Kerr Hall was planned to house administrative units, it continues to be used for academic programs on a temporary basis to relieve ongoing campus space shortages. Alterations to Kerr Hall are being done to accommodate the new occupants. Once the Engineering Building is completed in 2004, additional campus administration functions can relocate into Kerr Hall, releasing the space they now occupy for reassignment to academic programs. Space will continue to be leased off-campus for administrative units until funding is available to construct a new building.

**Student Support Facilities:** Student fees will help to fund expansion of appropriate student support offices and services. A variety of fee-supported buildings—recreational, student activities, and auxiliary enterprises—will be implemented as they become financially feasible. A new building is planned to meet the space needs of various Student Affairs administrative units. As enrollment increases and funding opportunities arise, expansion of the student facilities is also anticipated, including a campus event center, an expansion to the Cowell Health Center, an outdoor event/soccer stadium and sports field, and new student union facilities.

**Child Care:** Existing demand for child care on the campus greatly exceeds the available supply, primarily as a result of insufficient

## **SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)**

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space. Gift funds are being raised for the construction of a new Early Education and Child Care Center to replace and expand existing child care operations at Family Student Housing. The new facility is planned to double the number of children being served on campus.

### **3. Auxiliary Enterprise Facilities**

Construction of residence halls and apartments is planned in the colleges and will be coordinated with enrollment growth, demand, and financial feasibility. College student activity space also is planned. Special support elements will be completed in the Colleges as gift funds become available.

**Student Housing:** Housing projections point to serious concerns over the supply of both on- and off-campus housing. The campus has aggressively pursued new housing opportunities. Enrollment growth is to be accommodated in a series of new housing projects, as well as other on- and off-campus housing.

Residence halls and apartments are planned for each new College and infill housing is planned for some existing Colleges. Other housing, particularly for graduate students and family-student housing, may be provided by developers using third-party financing.

**Faculty/Staff Housing:** Faculty and staff housing also is in short supply in the Santa Cruz area. A series of projects on campus inclusion area land and purchase of off-campus housing are being pursued to add more than 300 housing units for faculty and staff.

### **4. Utilities, Site Development, Transportation and Parking Improvements**

The campus is over 35 years old. Some buildings have major inadequacies including mechanical, electrical, and fire-safety deficiencies and outdated technologies. Some underground utilities require renewal, modernization, or expansion. The 1996 Campus Transportation Implementation Plan (CTIP) recommends a series of program and infrastructure improvements to accommodate the transportation, parking, and access needs of the campus. The plan includes circulation improvements such as new bridges, pedestrian

## **SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)**

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paths and roadways, new parking lots, and an expanded Travel Demand Management Program.



# DIVISION OF AGRICULTURE AND NATURAL RESOURCES

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## Capital Improvement Program

ESTABLISHED	1952
RESEARCH AND EXTENSION CENTERS	9
LAND AREA	12,653 acres
BUILDINGS	537,325 assignable square feet
NATURAL RESERVES	34 reserves
LAND AREA	120,000 acres

## **DIVISION OF AGRICULTURE AND NATURAL RESOURCES 2004-2009 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Within the University of California, the Division of Agriculture and Natural Resources (ANR) is responsible for research and extension services in the areas of agriculture, the environment, natural resources management, and human and community development. These research and extension responsibilities also are authorized by three federal legislative acts: the Morrill Act of 1862, which provided land grants to states and territories to establish colleges for the teaching of agriculture and mechanical sciences; the Hatch Act of 1887, which established experiment stations to conduct agricultural research at the land-grant colleges; and the Smith Lever Act of 1914, which provided federal support for extension services in the agricultural colleges to transfer knowledge and identify new research needs. These Acts are the basis for the Division's formal link with the U.S. Department of Agriculture.

As one of the most highly regarded research and extension programs in the world, the UC Division of Agriculture and Natural Resources has affected and influenced agriculture throughout the State and nation for over 100 years. The effects of these programs have been widespread, from model production methods applied in third world countries to biotechnology innovations employed throughout the worldwide agricultural community.

ANR has three principal components: the Agricultural Experiment Station, Cooperative Extension, and the Natural Reserve System.

The Agricultural Experiment Station supports research in a broad array of disciplines related to food, nutrition, agriculture, natural resources and the environment, veterinary medicine, and human and community resource development. This research takes place in three colleges and one school on the Berkeley, Davis, and Riverside campuses and at nine agricultural Research and Extension Centers. The State-funded capital program for DANR primarily addresses needs at the Research and Extension Centers.



## DIVISION OF AGRICULTURE AND NATURAL RESOURCES INTRODUCTION (continued)

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Cooperative Extension conducts applied and adaptive research and offers a broad range of educational programs designed to transfer knowledge and research-based information from the campuses for use by individuals and organizations in both rural and urban areas throughout the State. Cooperative Extension has programs in all counties in California, as well as several remote sites which support extension activities.

In cooperation with eight campuses, ANR administers the Natural Reserve System—34 natural reserve areas for off-campus instruction and research. The reserves are managed, and their capital programs determined, by the campuses to which each is assigned.

ANR's strategic planning process has identified two high priority issues driving its programs:

- **Agricultural Resources:** ANR's priorities for research and extension programs in agriculture emerge from new opportunities at the leading edge of science, including biotechnology, and from the continuing need in California's agricultural systems to improve on already advanced performance. Two recurring themes are efficient and sustainable agricultural systems adjusted to scarcer resources, and pest and disease management. These reflect the pressures of population growth and change in California, competition in a global economy, development of new production areas, and the continuing threat of pests and diseases to more intensive farming systems. The very diversity of California agriculture, with over 250 commodities, creates additional needs. Sustainability of the system derives from reduced or redirected inputs, more efficient practices, improved cost effectiveness, reduced environmental impacts, and optimized land and water use. Improvements are needed in all these areas. Other needs are integration of new and developing pest and disease control technologies into management strategies, and development of rapid diagnostic and predictive tools.
- **Natural Resources:** Priorities in this area include (1) land, water, air, and wildland resources, (2) biological systems and diversity, and (3) environmental quality. Urgent needs for research and extension programs are driven by the impact of population on California's natural resources, which are increasingly threatened by competitive demands

## DIVISION OF AGRICULTURE AND NATURAL RESOURCES INTRODUCTION (continued)

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and pollution. The integrity and sustainability of biological systems are declining, with impacts on forest and rangeland ecosystems and other natural communities. For watersheds, scientifically sound decision-making strategies and management techniques are needed to balance competing needs among water utilization, timber harvesting, recreation, grazing practices, fish and wildlife habitat, and other factors. Water resources strategies are needed for allocation of resources, quality assessment, and public policy development—including water transfers, possible use limits, and investigation of alternative sources. Water quality will continue to be crucial, so more information and education are needed on the levels of water quality required to sustain ecosystems, production agriculture, recreation, and other uses. Management strategies are needed in dealing with wildland fires while maintaining public safety and environmental quality, as increasing fuel loads result in enormous economic, social, and environmental costs.

Addressing these issues requires adequate and modern facilities to enable research and extension staff to fulfill the University's academic goals for this division to provide practical education, to transfer knowledge, and to identify new research needs.

**Planning Strategy:** An in-depth evaluation of both campus and ANR facilities was conducted to determine condition, adequacy, and sufficiency of space related to agricultural research and outreach programs. ANR oversees and coordinates these issues across the University, provides support for the campuses, and has direct responsibility for operating the Research and Extension Centers. ANR studies have confirmed that many facilities which support these programs are in poor condition, inadequate to meet current needs, and inefficient. This constrains ANR's instructional and research functions and presents a major capital need.

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

**DIVISION OF AGRICULTURE AND NATURAL RESOURCES**

CCCI 4100  
EPI 2627

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2004-05  (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2005-06  (000s)	2006-07  (000s)	2007-08  (000s)	2008-09  (000s)	
	Lindcove REC Laboratory Facility (L931790)			P 50 W 60 C 920				1,030
	Kearney REC Pressure Irrigation System				P 30 W 50 C 820			900
	Hopland REC Field Laboratory and Educational Center					P 60 W 90 C 1,330		1,480
	Kearney REC Insectary Facility						P 30 W 40 C 605	675
	<b>TOTAL</b>			<b>1,030</b>	<b>900</b>	<b>1,480</b>	<b>675</b>	

**DIVISION OF AGRICULTURE AND NATURAL RESOURCES  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**Lindcove REC Laboratory Facility..... PWC \$ 1,030,000**

This project will construct approximately 2,500 asf of new laboratory space at the Lindcove Research and Extension Center located in Tulare County. The existing laboratory space is inadequate in size and is not equipped to meet the technical requirements of modern laboratory research. The project will provide wet and dry laboratory and laboratory support space for contemporary scientific research on high priority agricultural and natural resource issues. The facilities will be used by resident and campus-based scientists and their students.

**Kearney REC Pressure  
Irrigation System .....PWC \$ 900,000**

This project will construct an on-demand pressurized irrigation system to support agricultural field research at the Kearney Research and Extension Center located in Fresno County. The current system is inadequate to support the research program, and its operation is labor- and energy-intensive. The new system would accomplish three objectives: improved research through better handling and control of irrigation; water conservation through more efficient water delivery methods; and improved energy efficiency through better control of peak load electrical use.

**Hopland REC Field Laboratory  
and Educational Center.....PWC \$ 1,480,000**

This project will construct approximately 5,000 ASF of new multi-use space designed to accommodate a wide range of activities. The Hopland Research and Extension Center has become a resource and focal point for studying the management of North Coast natural resources, in addition to the traditional role of the “sheep station”. With this expanded role, there is a critical need for space to accommodate small and large numbers of participants in a wide variety of research, extension and educational activities. This project would

**DIVISION OF AGRICULTURE AND NATURAL RESOURCES  
CAPITAL PROGRAM (continued)**

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provide open multi-purpose and workroom space for dry lab activities, seminars, and community based educational functions.

**Kearney REC**

**Insectary Facility .....PWC \$ 675,000**

This project will construct approximately 3,000 ASF of new multi-use space for the rearing of a wide variety of insects and mites for research on integrated pest management, insects, and their predators. This will result in more efficient, environmentally friendly, and safer farming practices, as well as response preparedness for mitigating the effects of new invasive pests. The proposed facility will provide the appropriate space and environmental controls for optimum growing conditions for varied species of insects and decrease cross-contamination risks. The facility will be used by onsite, campus-based and county-based researchers and their students.

## DIVISION OF AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS

Many of ANR's research, education, and extension programs take place at remote Research and Extension Centers (some located hundreds of miles from UC campuses). These centers support campus, regional and county-based researchers, educators, and students. The facility requirements are similar to those of campuses requiring modern research labs, meeting and classroom space, administrative support space, and related infrastructure.

Buildings and other facilities at ANR's Research and Extension Centers include scientific laboratories, field laboratories, academic and administrative offices, greenhouses, livestock barns, special-use equipment-intensive support facilities, classrooms, meeting facilities, maintenance shops, and storage buildings. The required infrastructure includes domestic and agricultural water systems, wastewater systems, electrical and gas distribution systems, roads and fences, security and fire-protection systems, and hazardous waste storage and treatment systems. Many of these facilities are antiquated, in poor condition due to years of use in harsh environments, of a design that no longer supports contemporary research needs, or have environmental health and safety concerns.

Programs conducted at the Centers have changed markedly over the years, reflecting changes in both issues of concern and methods used to conduct research in agriculture, biology, resource sciences, and related disciplines. These facilities must support multi-disciplinary initiatives in growing methods, pest control, water management, resource conservation, and other subjects that are necessary to respond to new issues and needs facing the State.

Field infrastructure and buildings should be renewed and improved and new facilities added to meet continuing needs and new requirements in support of these essential field laboratory resources and programs of the University.

**Capital Needs:** Factors influencing capital needs of the division include:

- Lack of analytical chemistry laboratories has restricted initiation of new research programs at many of the Centers. In addition to the projects in the current five-year capital program, other facilities must

## **DIVISION OF AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS (continued)**

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be constructed in the near future to accommodate increased demand for this type of space in conjunction with field facilities.

- Larger multipurpose rooms are urgently needed to accommodate meetings and classes with researchers, students, industry, and community groups. Facilities for such meetings are scarce in many of the communities associated with these remote locations.
- Many other facilities and infrastructure systems are inappropriate and outdated for current research methodologies and for the level of activity at these centers. Buildings are substandard, unsuitably configured, inadequately sized, and incompatible with current requirements. There is a lack of technologically advanced equipment. New or remodeled space and support systems are essential to provide service to University research programs and to deliver educational programs that are an integral part of ANR's mission.





# **UNIVERSITYWIDE**

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## Capital Improvement Program

**2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

CCCI 4100  
EPI 2627

**UNIVERSITYWIDE**

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2004-05  (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2005-06  (000s)	2006-07  (000s)	2007-08  (000s)	2008-09  (000s)	
--	Northern Regional Library Facility, Phase 3 (912941)	P 810 W 1,033 C 16,177	E 499					18,519
	Inflation Adjustments			8,500	16,000	24,000	32,000	
	<b>TOTAL</b>		<b>499</b>	<b>8,500</b>	<b>16,000</b>	<b>24,000</b>	<b>32,000</b>	

**UNIVERSITYWIDE  
2004-2009 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

- **Northern Regional  
Library Facility, Phase 3 ..... E \$ 499,000**

State funds are requested to equip the 56,713 asf addition to the Northern Regional Library Facility (NRLF), located at the Richmond Field Station. The purpose of the NRLF is to store, preserve, and provide access to low-use material of research value in an economical manner. The facility was planned for periodic expansion to accommodate continuing deposits by the northern campuses of the University and participating non-UC institutions. The 2.4 million volume capacity of the Phase 2 facility is fully committed at this time. This Phase 3 facility will increase the storage capacity by 2.2 million volumes to a total of 7.7 million volumes, sufficient capacity to accommodate planned deposits through 2012-13. The project will provide a third shelving module with associated services, mechanical equipment, and fire and life safety improvements.

**Inflation Adjustments**

The budget data for projects presented in the University's five-year capital outlay program are defined at CCCI 4100 and EPI 2627, the project cost indices approved by the State for July 2004 as the basis for the 2004-05 budget. The anticipated increase in cost in each subsequent year due to increases in labor, material, and other prices is reflected in this adjustment.





