

# 2005-2006

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## Budget for Capital Improvements



**UNIVERSITY OF CALIFORNIA**  
**Office of the President**  
**November 2004**



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# **OVERVIEW**

## **UNIVERSITY OF CALIFORNIA**

### **CAPITAL IMPROVEMENT PROGRAM**

The University of California is designated under the California Master Plan for Higher Education as the State's graduate education and research institution with related responsibilities for public service. It is to serve students from the top 12.5 percent of graduating California high school seniors. This three-fold mission of education, research, and public service determines the character of the institution and the education it provides for both undergraduate and graduate students. The students who receive degrees from the University are prepared to take leadership positions in industry and our community; the University's research is not only an integral part of this educational process but also vital in supporting the continued strength of California's economy.

Successfully meeting its responsibilities to students and the State requires that the University maintain its programs at the forefront of knowledge. Periods of rapid enrollment growth have always presented a challenge, but the issues currently facing the University are particularly difficult. University budgeted enrollment is expected to grow by approximately 45 percent in the period between 1998-99 and 2010-11. The speed with which programs must be expanded, the number of new faculty at the top of their fields who must be hired, and the number of new buildings and related facility and infrastructure improvements required is daunting.

The challenges were met during the first part of this growth period, although with significant strain, because of the dedicated efforts of the campuses and the support of the State. However, starting in 2000, economic events created serious problems for the fiscal situation of the State and reduced its ability to respond to student demand for a University of California education. In addition, federal funding for research is being reduced by pressure from the national deficit, and private funding for the University has been constrained by the economy as well. The University has a compact with the Governor to provide basic support, including funding for enrollment growth consistent with the Master Plan and \$345 million per year for capital needs.

During this period, the electorate, State administration, and legislature have continued to approve bond measures critical in funding the facilities necessary to accommodate the great expansion of enrollment and new programs. This State funding for capital purposes—supplemented by University funds and private donors—has supported the most critical facility needs. Unfortunately, reductions in State and federal funds for instruction and research and a decline in gifts have made it impossible for the University to continue allocating a high level of its own funds to capital needs.

The reduction is made much more serious by an extraordinarily rapid escalation of building costs. This has been dramatically highlighted by steel prices that increased by 26 percent in the 12 months ending September 2004, due in part to over-heated development of the economy of China and resumption of demand in the US. Prices for cement and other materials also increased substantially in the same period, although not as much as those cited for steel. The California Construction Cost Index (CCCI), the State's official cost index for building construction materials and labor, increased by 7.9 percent in the same 12-month period.

The inflationary problem is compounded by a parallel increase in the volume of construction in California. There has been a surge in hospital construction because of the State mandate to correct structural life-safety deficiencies by the end of 2007. Public construction in general is strong, and private construction has increased significantly as corporate profits have revived. This increase in project volume has fully engaged the state's construction industry, resulting in less competition for the University's construction contracts, fewer bidders, much higher bid proposals, and great volatility in those bids. Contract bids started to exceed budgets in late 2003, and the University is currently experiencing extraordinary overages on particular contracts. The problem is not simply higher costs but highly unpredictable costs.

In response, the University has dramatically increased its efforts to manage cost and cost risk. The greatest opportunities are at the beginning of the design period. The guidance provided to project architects is to define the simplest solution possible for the program requirements and physical design and to identify additional elements that could be managed as "options" to be implemented as late as the time the contract is bid if costs are within budget. If a project is already in the final steps of design, significant design modifications are more difficult, but every effort is still being made to reduce

cost, and to improve bid processes that reduce contractor interest in University projects. If bids still exceed budgeted funds, additional measures are investigated to further simplify and reduce the scope of the project for re-bid. The constrained funds available to the University from the State bond measure and campus resources limit its ability to augment project budgets under other than the most critical conditions, and only after all other measures have been taken to reduce costs.

## **Enrollment**

The current cycle of student enrollment growth at the University of California began in the late 1990s, the start of a period that the California Post-secondary Education Commission (CPEC) refers to as “Tidal Wave II,” driven significantly by the children of the post-WW II “Baby Boom.” 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 in 2010-11 of 210,000 FTE. Adjustment to account for summer enrollment that had not been funded by the State at that time resulted in a forecast for 2010-11 of 216,500 budgeted FTE students, a cumulative increase of about 45 percent.

In fact, the University has experienced far more rapid enrollment growth than the 1999 plan envisioned, averaging closer to 8,000 FTE per year rather than the 5,000 FTE growth that had been projected. Although this growth was slowed in the current year by State funding constraints, it is expected that student enrollment in 2010-11 will reach the level envisioned in the 1999 plan.

## **Capital Need and Funding Availability**

As has been true of past enrollment growth cycles, the expansion of facilities has lagged significantly the rapid increase in student population. The current University Space Analysis reports that the five existing University growth campuses have on average about 24 percent less space in 2003-2004 than allowed by CPEC space guidelines for this level of enrollment. The analysis already fully discounts need in accordance with the University’s commitment to bring summer term FTE enrollments to a level equivalent to 40 percent of the average fall/winter/spring term. Campus 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 through this growth period. 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). Approximately \$250 million is related to the renewal and modernization of existing facilities included in the capital program, and correction of seismic hazards. However, the figures do not include Operation and Maintenance of Plant 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. CPEC has suggested that bond measures providing \$1 billion per year are needed through this decade to support the capital requirements of the State's three segments of public higher education, divided equally among 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 \$311.7 million in 2003-04. The second bond measure was approved by the voters on the March 2004 ballot and provides the University with \$345 million per year for the 2004-05 and 2005-06 budget years. State costs for bond administration and issuance, currently estimated at between three and five percent, are subtracted from these amounts. Another bond measure is planned for submittal to the voters on the 2006 ballot, supporting capital appropriations for the following two or four years. The compact provides for support of the bond measure at a level that will provide \$345 million per year for the University.

It is critical that the public approve this new bond measure if the University is to address current and projected space deficiencies, 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 necessary to provide a quality education to the increasing numbers of California students.



Even with this bond funding, there is still a financial gap of \$200-\$300 million per year. The University remains committed to pursue gift and other potential fund sources to supplement State resources; but, as noted above, reductions in funding available for operations severely limit the ability of the University to supplement State capital funds at the same level possible in past years. This loss is particularly difficult in the present situation where project budgets set in earlier, more stable years are being overtaken by inflation in construction materials and labor and bid-market volatility.

During the growth period of the 1980s, the University also experienced a significant shortfall of capital funds and the availability of core academic facilities did not keep up with the pace of enrollment growth. This lag is already clearly visible in the current growth cycle. 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 2005-06 will not be ready for occupancy until 2009-10 or later. The degree of deficiency and lag may be greater in the current growth period because the University's rate of enrollment increase 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 already operating at a significant space deficiency. It is essential that the State help the University minimize a shortfall of space, and provide continued funding after 2010-11 to allow correction of the remaining deficiencies. Individual campuses and their faculty can deal with reasonable levels of short-term deficiencies if there is confidence that the necessary State funding will be provided within a reasonable period. 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**

In 1999, the total enrollment capacity of the existing nine campuses (as defined by their Long Range Development Plans) and UC Merced was approximately 24,000 FTE less than the demand forecast for 2010-11.

All campuses have been actively pursuing programmatic and physical options for accommodating the increase in students. Most campuses have been

engaged in the lengthy process of amending their 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.

The new campus at Merced will be opened for the Fall 2005 semester. Campus site development and infrastructure is being completed, all off-site utility services have been extended to the campus and are ready for operation, the campus utility plant is being finished at this time, and construction is proceeding rapidly on the first three academic buildings and on other facilities for student housing and campus support. The Merced administration and key faculty are at work in off-campus facilities at the former Castle Air Force Base, developing academic programs and courses while recruitment proceeds for the remaining faculty necessary to open the campus. UC Merced has already initiated an active concurrent enrollment program with nearby community colleges, and UC faculty are working with students in these programs in anticipation of their transfer 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 committed to expand State-supported instructional programs during the summer, with the present 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 changing student’s summer job and vacation expectations—but more importantly, in achieving 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 is providing additional funds on a phased basis 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 the Berkeley, Davis, Los Angeles, and Santa Barbara campus summer terms. The University will commit enrollment growth funds in the 2005-06 and 2006-07 budgets to support summer instruction at the remaining four campuses.

Maintenance of the quality of University of California academic programs and the education received by the students is critical if the University is to serve the State effectively in its designated mission of education, research,

and public service. Modern 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 was so successful that the University met its 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. Science and engineering programs are of particular concern because of their dependence on highly sophisticated laboratories and technologies to support “cutting-edge” teaching and research.

The most effective learning at institutions of the level of the University of California, for undergraduates as well as graduates, occurs in participatory research settings rather than traditional formal classes. The scholars and researchers who are most effective with 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 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 and modern computation, information, and communication resources and technologies.

However, the campus must have a balanced array of facilities and services to function effectively and meet education, research, and public service goals. A shortfall in one category reduces 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 rapidly is dependent upon the availability of funds, a serious challenge. However, the new tidal wave of students is graduating from California’s high schools, has already impacted the University, and will continue to increase for the remainder of this decade. The University is committed to meeting the needs of those students.

## **Renewal and Modernization of Existing Facilities**

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 age and intensive use. The importance of facility renewal is obvious at a campus as old as Berkeley or Los Angeles, but even the "newest" of the existing campuses are nearly four decades old and experiencing many of the same problems. The University's backlog of deferred maintenance grew dramatically during periods of budget reductions in the past three decades, and remains distressingly large. Deficiencies in existing facilities remain a major constraint to academic program quality and innovation. State actions to increase permanent maintenance funding have faltered because of fiscal conditions, and the University's efforts to finance deferred maintenance with its own bonds address only an increment of the problem. Continuing State support for the deferred maintenance program and capital renewal is necessary to preserve the usefulness of the University's physical assets.

Another 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 students and conducting the research that advances knowledge and creates economic opportunities. Instruction and research objectives evolve and change direction, as do the methods and equipment used. Academic programs must 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 on the capability of the programs and ultimately limit the abilities of the graduates entering the California workforce.

This continued evolution is particularly evident in science and engineering fields. In many cases, the boundaries between science and engineering disciplines 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, infomatics/computer science, imaging technologies, and other once-separate fields of expertise.

The convergence of previously diverse fields is strongly influenced by great advances in laboratory technologies that are now used in many disciplines. Often these involve sophisticated instrumentation and analysis at a cellular or molecular level and demand 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 those disciplines.

Such functional obsolescence 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 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. Dramatic changes in laboratory methods and technologies, and particularly the great increase in chemical use, present safety concerns significantly greater than those in the past.

The University's capital program also is seriously impacted by issues of life safety, particularly the critical need to ensure the safety of students, faculty, and staff 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 were rated before 1994 as 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. 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 Regents have given high priority to completing the University's program of seismic and other life safety corrections as rapidly as possible, and new seismic projects were incorporated into the capital program with the result that seismic hazards have been corrected at most campuses.

However, the problem remains particularly serious at Berkeley, where the central campus is immediately adjacent to the Hayward Fault. It is now understood that forces experienced near to such a fault can behave differently and be much greater than previously estimated. The campus estimates that another ten years will be required before seriously deficient buildings will be strengthened, and more years will be needed to complete the entire program. At UCLA, most general campus facilities damaged by the 1994 Northridge Earthquake have been corrected, but the magnitude of work required to rebuild the Center for Health Sciences will also require years to complete. State funds have been supplemented by major FEMA support at Los Angeles. At both Los Angeles and Berkeley, the level of necessary additional funding presents a serious challenge that will require extraordinary campus investment and donor support, stretching campus resources to their limit for another decade. Unfortunately, the current reductions in State operations funding have significantly impacted the ability of the campuses to use non-state funds to supplement project budgets to pay for related costs and for associated building renewal requirements.

### **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 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 developing a five-year infrastructure plan for the State, an annual report first presented in 2002. As noted above, the University has documented annual funding needs of approximately \$650 million per year.

It is important to note that our five-year need is different from and greater than the five-year capital budget for State funds 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 presenting specific projects in priority order based on that

estimate of available funding. The budget request does not display or address our total funding need, which was described earlier.

## **The Capital Planning Process**

Each campus routinely prepares a five-year capital program based 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 and 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 that 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 2005-06. In addition, the document includes the five-year capital improvement program for State-funded projects, reflecting anticipated funding requests through 2009-10, 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. 2005-06 Budget for Capital Improvements: State Funds**

The basic request for State capital outlay funds in 2005-06 totals \$355.5 million, supported by the funds remaining from the 2004 general obligation bond measure. The request is presented in summary form for the University as a whole in the following section of this

document. That section lists only those projects for which State funding is requested in 2005-06.

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

The five-year capital improvement program planned for State funding, covering the years 2005-06 through 2009-10, 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 shape the capital program for the campus. It is followed by a table presenting the five-year program for State funding and by 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 2005-06—summarized in the following section.

Projects that are listed in the five-year programs for initial 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.



## **2005-06 BUDGET FOR CAPITAL IMPROVEMENTS STATE FUNDS**

The 2005-06 Capital Budget requests \$355.5 million in State funds for the University's capital outlay program. 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 2005-06 State-funded capital budget request. This includes \$6.1 million to equip six projects for which construction has been approved and funded by the State. A total of \$349.4 million is requested to support 19 major capital projects for preparation of preliminary plans, working drawings, or construction, presented in Universitywide priority order.

Of the 19 major capital improvement projects, State funds are requested to support construction or complete design and undertake construction for 12 projects, and to begin or continue design on seven projects.

Fourteen 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, nine will provide new buildings to expand instruction, research, and academic support facilities; one will expand and renovate an existing academic building; and one will renovate existing building space for growing academic programs. In addition, one project will renew and upgrade the infrastructure of an existing laboratory building 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 two of the 19 project funding requests are proposed 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 new Engineering Building at Irvine (priority 1), a Materials Science and Engineering Building at Riverside (2), an addition to and renovation of Mc Henry Library at Santa Cruz (3), a new facility for the Physical Sciences at Davis (4), and a new Music Building at San Diego (7).

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 a Social and Behavioral Sciences Building at Irvine (11), a Digital Arts Facility at Santa Cruz (12), a Structural and Materials Engineering Building at San Diego (13), an Environmental Health and Safety Expansion project at Riverside (15), and a Student Academic Support Services Building at Riverside (17).

Four projects will address the deficiencies of aging buildings and support evolving academic program needs. Construction funding is requested for the Medical Sciences Building Improvements Phase 2 at San Francisco (8) and Alterations for Engineering Phase 3 at Santa Cruz (9). Funds for completion of design and for construction of replacement buildings are requested for the Life Sciences Building at Los Angeles (6) and the Lindcove REC Laboratory of the Division of Agriculture and Natural Resources (19).

Two projects included in the 2005-06 State-funded Capital Budget will correct serious seismic and other life safety hazards. Funds are requested for construction of Step 4 of Doe Library Seismic and Program Improvements at Berkeley (5) and for preliminary plans for Seismic Safety Corrections, Giannini Hall, also at Berkeley (16).

Critical infrastructure deficiencies will be addressed with funding requested to complete design or construction of renewal and expansion work in three projects. These include completion of design and construction of the first phase of a Steam Expansion project at Davis (10), and the third phase of Electrical Improvements, also at Davis (14). Funding is requested for preliminary plans for the first phase of Infrastructure Improvements at Santa Cruz (18).

In the primary election of 2004, voters approved a new general obligation bond measure that provided financing to support the University's State-funded capital budgets for 2004-05 and 2005-06. These funds have been of great value to the University, but their usefulness has been reduced severely

by the sudden resumption of inflation in the cost of construction materials and labor and by an increase in the volume of construction that creates volatility and a rise in bid prices. In addition, the State's fiscal crisis has substantially increased the costs of interim financing and bond issuance, further reducing the funds available from the bond.

Projects currently advertised for construction bids were generally planned and budgeted three years earlier, under more benign economic conditions. The University has made every effort to manage the design and contracting processes so as to keep costs within approved project budgets and State appropriations. These efforts, however, can result in substantial changes to programmed space, and bid overages are nonetheless frequent.

Unfortunately, it is apparent that the fixed amount of the 2004 bond measure will support less construction than had been planned to meet the urgent needs of enrollment growth, life-safety corrections, and renewal and upgrading of the University's aging physical plant. Projects identified in this budget request are at risk because of these circumstances.

In addition, funds from the 2004 bond measure will be exhausted with the 2005-06 budget, and passage of a new bond measure in 2006 is necessary to meet inescapable needs of the growing number of students seeking education at the University of California.

**University of California**  
**2005-06 BUDGET FOR CAPITAL IMPROVEMENTS**

CCCI: 4328  
EPI: 2649

Priority Number	Campus	Project	Prefunded (\$000)	2005-06 Budget (\$000)		Future Funding Requirements (\$000)		Total Project Cost (\$000)
<b><u>Capital Equipment for Previously Authorized Projects</u></b>								
---	Irv	Computer Science Unit 3	PWC 31,822 C [12,798] LB	E 3,025 E [3,025] X		----		34,847 [15,823]
---	SC	Humanities and Social Sciences Facility	PWC 27,305	E 1,075		----		28,380
---	SD	Biomedical Library Renovation and Addition	PWC 16,303 C [771] X	E 695		----		16,998 [771]
---	SD	Student Academic Services Facility	PWC 21,592 PWC [3129] X C [5,000] LB	E 504		----		22,096 [8,129]
---	SB	Snidecor Hall Office Wing Seismic Replacement	PWC 11,744 PWC [765] X	E 405		----		12,149 [765]
---	SD	Mayer Hall Physics Addition and Renovation	PWC 28,655	E 445		C 12,277		41,377
<b><u>Major Capital Projects</u></b>								
1	Irv	Engineering Unit 3	PW 3,440 C [8,591] LB	C 47,347		E 3,176 E [3,176] X		53,963 [11,767]
2	Riv	Materials Science and Engineering Building	PW 3,749	C 50,549		E 4,370		58,668
3	SC	McHenry Addition and Renovation Project	PW 5,063	C 33,782		WCE 40,361		79,206
4	Dav	Physical Sciences Expansion	P 2,235	WC 46,280		E [1,206] X		48,515 [1,206]
5	Berk	Doe Library Seismic and Program Improvements Step 4	P 1,110 PW [3,460] G	C 30,810 C [8,640] G		----		31,920 [12,100]
6	LA	Life Sciences Replacement Building	P 2,200 P [1,003] LB	WC 52,042 C [5,876] LB		C 16,080 C [13,118] LB E [1,311] X		70,322 [21,308]
7	SD	Music Building	PW 3,802	C 36,125		E 2,129		42,056
8	SF	Medical Sciences Building Improvements, Phase 2	PW 3,032	C 15,319		C 15,319		33,670

**University of California  
2005-06 BUDGET FOR CAPITAL IMPROVEMENTS**

CCCI: 4328  
EPI: 2649

Priority Number	Cam- pus	Project	Prefunded (\$000)		2005-06 Budget (\$000)		Future Funding Requirements (\$000)		Total Project Cost (\$000)
9	SC	Alterations for Engineering Phase 3	PW	389	C	4,161	----		4,550
10	Dav	Steam Expansion Phase 1	P	[559] X	WC C	10,483 [1,520] X	----		10,483 [2,079]
11	Irv	Social and Behavioral Sciences Building			PW	2,850	CE E	37,850 [2,700] X	40,700 [2,700]
12	SC	Digital Arts Facility	P	1,330	W	888	CE	19,481	21,699
13	SD	Structural and Materials Engineering Building			P	3,067	WCE E	68,095 [4,000] X	71,162 [4,000]
14	Dav	Electrical Improvements Phase 3	P	[488] X	WC C	10,166 [1,550] X	----		10,166 [2,038]
15	Riv	Environmental Health and Safety Expansion			PW	1,000	CE	10,964	11,964
16	Berk	Seismic Safety Corrections Giannini Hall			P	1,055	WC C	21,153 [2,336] X	22,208 [2,336]
17	Riv	Student Academic Support Services Building			PW	1,650	CE	17,730	19,380
18	SC	Infrastructure Improvements Phase 1			P	777	WC	7,326	8,103
19	ANR	Lindcove REC Laboratory Facility			PWC	1,030	----		1,030
<b>TOTAL</b>					<b>355,530</b>		<b>276,311</b>		



## **KEY TO SYMBOLS AND COST INDICES 2005-2010 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) 4328 and moveable equipment costs on Equipment Price Index (EPI) 2649, as projected for **July 2005**. Since these indices are associated with the 2005-06 Budget, individual project costs estimated for years beyond 2005-06 do not include an adjustment for inflationary increases.





# **BERKELEY CAMPUS**

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## **Capital Improvement Program**

ESTABLISHED	1873
ENROLLMENT 2003-2004 (ACTUAL)	24,196 FTE undergraduates 8,245 graduate students 750 health science students
LIBRARY COLLECTION	9.7 million volumes
CAMPUS LAND AREA	1,290 acres
CAMPUS BUILDINGS	9.1 million assignable square feet

# **BERKELEY CAMPUS 2005-2010 STATE-FUNDED PROGRAM**

## **INTRODUCTION**

Since its doors first opened in 1873, the Berkeley campus and its facilities have continuously 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 under way 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 of which is 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
- development 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)

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 the comprehensive new “SAFER” Plan (Seismic Action Plan for Facilities

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

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Enhancement and Renewal) to guide its planning in light of this information, and it recognizes this program as essential to protect lives and ensure UC Berkeley's continued viability as a premier educational institution. Specific projects necessary to correct the remaining seismic deficiencies must be scheduled over a 15-year time frame with the most critical life-safety work to be completed within the next ten years. 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 continues to pursue concurrent opportunities to renovate, replace, and expand its buildings 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 the recent reduction in funding for deferred maintenance puts 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"). In response, the University developed plans to support an increase in enrollment of almost 50 percent between 1998 and 2010, with approximately 4,000 more students at the Berkeley campus. To minimize the environmental consequences of this growth, including the construction of additional space, the campus has sought to accommodate a significant number of the students in summer sessions and off-campus programs and continues to study how to accommodate the remainder while minimizing the effects on campus infrastructure and the surrounding community. Additional academic, administrative, and research space will clearly be needed, particularly in the more popular programs, to accommodate the additional students and the faculty and administrative

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

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staff they will require. The total on-campus headcount enrollment for the 2003-04 academic year was 31,145.

### **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 Long-Range Development Plan (LRDP). A new LRDP is being prepared that will guide campus development through 2020-21. Many guiding principles of the 1990 LRDP will 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. The new LRDP draws on the “New Century Plan,” a facilities master plan to guide the continuing “SAFER” program and to account for new, critical program initiatives that were not predicted when the 1990 LRDP was prepared. The LRDP also relies on the campus Strategic Academic Plan, a joint academic-planning effort of the administration and the Academic Senate that provides the necessary academic foundation for the new LRDP.

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, to meet new facility standards, and to continue to attract the best faculty, students, and staff. Capital needs at the Berkeley campus are driven by several factors:
  - **Seismic Corrections:** The campus needs to complete the program of seismic corrections. 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 15-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, support emerging new instructional methods and technologies, accommodate new research subjects and technologies, and incorporate new approaches to management of

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

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computing services and information systems. Particularly critical for the campus are recent initiatives in the life and physical sciences, with strong emphasis 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. It must also 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 to preserve 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 high cost of living in the Bay Area causes many faculty, staff, and students to live at some distance from the campus. As available parking spaces are 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

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

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pursued. When feasible, academic and administrative facility needs are met through more intensive 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.

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

BERKELEY CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-10	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
5	Doe Library Seismic and Program Improvements Step 4 (912699)	P 1,110 P [1,240] G W [2,220] G	C 30,810 C [8,640] G					31,920 [12,100]
16	Seismic Safety Corrections Giannini Hall (912051)		P 1,055	W 1,420 C 19,733 C [2,336] X				22,208 [2,336]
	Campbell Hall Replacement Building (912017)			P 2,600 P [1,400] G W 3,100 W [1,600] G	C 60,200 C [32,100] G		E 2,000 E [2,000] G	67,900 [37,100]
	Hearst Gymnasium Academic Building Seismic Corrections (912179)			P 950	W 950	C 15,950		17,850
	Davis Hall Seismic Corrections (912025)				P 2,000	W 3,060	C 39,275	44,335
	Mulford Hall Seismic Corrections (912045)					P 1,480	W 1,690	36,950
	<b>CAMPUS TOTAL</b>		<b>31,865 [8,640]</b>	<b>27,803 [5,336]</b>	<b>63,150 [32,100]</b>	<b>20,490</b>	<b>42,965 [2,000]</b>	



**BERKELEY CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

- 5. Doe Library Seismic and Program Improvements Step 4.....C \$ 30,810,000  
C \$ [8,640,000]G**

State funds are requested for construction of seismic corrections and program and infrastructure improvements to the Doe Library Annex building. This project will complete the four-phase program of seismic safety corrections for the main library complex on the Berkeley campus bringing the entire complex to a “Good” seismic rating. Earlier steps removed the hazardous central book stack and strengthened the main south block and north wing of the complex. Step 4 will strengthen Doe Annex, the 103,503 asf east wing of the complex, which houses the Bancroft Library collection and other library functions and is rated seismically “Poor” (DGS level V). Three mezzanine tiers will be removed, and interior shear walls will be added and placed on new foundations along existing column lines to brace the remaining concrete stack floors. The project will also make important programmatic and infrastructure improvements to support the operations of the Bancroft Library. Mandatory correction of fire and life-safety and accessibility code deficiencies will also be completed.

- 16. Seismic Safety Corrections  
Giannini Hall..... PWC \$ 22,208,000  
C \$ [2,336,000]X**

State funds are requested for preliminary plans for a project to implement seismic corrections to Giannini Hall, a 46,009 asf building constructed in 1930 that serves programs in the College of Natural Resources, including the Department of Agricultural and Resource Economics, and the Department of Environmental Science, Policy, and Management. 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

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

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by adding new shear walls, collector beams, grade beams and footings, and other structural elements. The proposed reinforcing scheme will preserve the historical 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 \$ 67,900,000**  
**PWCE \$[37,100,000]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 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 a larger integrated physical sciences building of approximately 76,600 asf to provide modern laboratories and other space for the departments of Physics and Astronomy.

### **Hearst Gymnasium Academic Building**

**Seismic Corrections..... PWC \$ 17,850,000**

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

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

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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.

### **Davis Hall Seismic Corrections..... PWC \$ 44,335,000**

“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; the 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 include strengthened vertical structural elements to increase the building’s ability to resist lateral forces and attain a rating of “Good.” Mandatory correction of fire and life-safety and accessibility code deficiencies also will be completed.

### **Mulford Hall Seismic Corrections ..... PWC \$ 36,950,000**

Mulford Hall is a 47,212 asf building constructed in 1948 that houses part of 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 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; 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 additional specialized studies, new initiatives, and plans developed since those general plans were prepared including the Strategic Academic Plan and New Century Plan. A new LRDP is in preparation.

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 has been 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; upgrade of lighting and ventilation; improvement 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 balance of classroom sizes and types for contemporary instruction methods. Phasing of improvements is necessary 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**, the **Department of Art Practice**, and the **Hearst Museum of Anthropology** may require expansion of Kroeber Hall or additional space at another site.
- Phase two of the Tien Center for East Asian Studies facility, totaling approximately 25,000 asf, is planned to address the space needs of the **Department of East Asian Languages and Cultures** and the **Institute of East Asian Studies**.
- 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 space in Morrison Hall formerly occupied by the Music Library, and by renovation of the old Art Gallery.
- Several older buildings need rehabilitation for the arts, humanities, and social sciences. Durant Hall, one of Berkeley's earliest buildings, requires extensive rehabilitation to correct serious heating, ventilation, electrical, and accessibility problems. 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.

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

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- The space needs of the **School of Social Welfare** will be addressed by renovations and space reassignments in Haviland Hall.
- The need of the **UC Berkeley Art Museum** for improved and expanded space for staff and collections will be addressed in conjunction with planning of the seismic-corrections project for the Museum.

**Libraries:** Besides the East Asian Library, which will be assigned 46,000 asf in phase one of the Tien Center for East Asian Studies facility, a number of library branches have problems of overcrowding and obsolescence. They require 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 in the northwest precinct are planned for the biomedical program 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 objectives 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 in 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.
- The **School of Public Health** remains split among six campus buildings and various off-campus rental sites, and Warren Hall,

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

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rated seismically “Poor” and near the end of its useful life, is targeted for removal. The School’s need for wet laboratories will be primarily addressed in a new building to replace Warren Hall, and additional and replacement office space is being provided in University Hall.

- The upgrade and expansion of facilities at the **Botanical Garden** is required to meet the Garden’s growing 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 and improvements in Birge Hall are planned.
- 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 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.

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

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- 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 alterations to complete its conversion to non-laboratory uses.
- 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 historical 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.

**Campus Computing:** The central computer facility for the campus has been moved to seismically sound and appropriately designed space that provides reliability for campus computing systems and other critical services. Unit-level computing centers located in substandard facilities and buildings targeted for seismic upgrading will be evaluated for relocation to this facility.



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

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**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 (SCRA), the Clark Kerr Campus, and the Recreational Sports Facility. Indoor recreation facilities are overcrowded, and improvements are badly needed for the pools at the SCRA. Existing outdoor playing fields and courts are heavily used and cannot meet present demand. Hearst Athletic Field will continue to be used for some time for temporary facilities supporting the seismic program, and tennis and outdoor basketball courts have been removed by new construction. Renovation of existing fields and the planned restoration of Underhill Field will partially address these problems.

**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**

**Child Care:** Additional facilities for Child Care for students, faculty, and staff are needed. A new facility for 78 infants, toddlers, 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 Child Care facilities will be considered for inclusion in the capital program.

**Housing and Dining Services:** Even with the recent easing of the rental market, the student housing situation remains challenging, given the general high cost of housing in the Bay Area as well as students' strong preference to live as close to the central campus as

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

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their budgets allow. In Fall 2004 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. The campus has set a further objective of accommodating more sophomores and first-year graduate students in campus housing. Beyond the 1,117 beds added to the system at the Bowditch-Channing and Units 1 and 2 sites, an increase of up to 2,600 beds in the campus housing inventory is projected from future projects, including possible third-party development projects, to meet campus housing goals.

Changes 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 of a plan to replace 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 four to five years. However, projects are currently constrained because rising costs of construction and a lack of additional revenue-generating spaces mean that housing rates must be increased to meet the debt obligations for renovation projects. Given the magnitude of what is needed, renovation or replacement projects must be carefully prioritized and phased.

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

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

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accessible. 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. Access improvements will be primarily focused on campus pathways, specialized program spaces, and 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.

**Campus Communications Infrastructure:** Electronic communication in a variety of technologies has become critical to almost all campus programs and activities, and demand is expected to increase rapidly over the next decade. The current campus infrastructure is unable to support the required physical cabling and distribution topologies. The campus is in the fifth step of a phased, multiyear program to build a new Interbuilding Campus Communications System (ICCS) linking all campus buildings. As much as 40 percent of the campus community still relies on communications systems housed in an old, seismically poor facility that also used to house the campus computer center. 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. The need to complete this work is heightened by the increased reliability and functionality of the new central computer facility, which would lose connectivity to a significant portion of the campus if a failure in the old computer facility were to occur.

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

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**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. Some examples are the redesign of major campus entrances and core-campus spaces such as the western terminus of Campanile Way, the southern campus entrances at College and Telegraph avenues and Dana Street, 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. These factors include not only continued growth in campus enrollment and employment, but also restrictions by the city on nearby street parking and the displacement of existing spaces by new campus buildings. Expansion of attendant parking has alleviated some of this need, as have a broad range of campus incentive programs for alternative travel modes, including discounted transit fares for students and (starting in Fall 2004) campus employees. However, a significant percentage of the present parking inventory is located in surface lots, and, given the scarcity of buildable land on and around the campus, most of these surface lots are prospective sites for future buildings. In accord with University parking principles, the campus has established a policy to provide for replacement of parking spaces displaced by new buildings, and it is expected that these displaced spaces would be replaced in structure parking. The new campus LRDP, now in preparation, would increase the campus parking inventory to roughly 10,000 spaces, an increase of roughly 2,300 spaces over existing facilities, to accommodate both unmet demand and future campus growth.

**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.

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

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**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 sewerage, 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 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 and debris have been known for many years. Regulatory agencies impose certification requirements for contractors disturbing lead-containing materials in most cases. Paint sampling and airborne monitoring are frequently required during abatement

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

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activities, and lead debris often must be disposed of as hazardous waste. In child care facilities, disturbance of lead-containing materials requires exposure controls, notification, and clearance criteria beyond the requirements applicable to general construction and renovation projects. These requirements can add significantly to project costs. Because lead-containing paint is so common in older buildings, proper abatement of lead-containing materials 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, frequent false alarms have caused numerous unnecessary building evacuations that have affected campus operations, potentially diverted emergency responders from real emergencies, 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 to ensure there are no further problems. Cleanup of 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.

**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

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

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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 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, with the most severe hazards scheduled for correction in the next ten years. Corrections involving more than 30 buildings have already been completed, as well as work to mitigate nonstructural hazards.

### **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. The campus is actively addressing UC's green building and clean energy policy. Expansion of the successful central control system, which now reaches 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 2003-2004 (ACTUAL)	23,108 FTE undergraduates 4,039 graduate students 2,133 health science students
LIBRARY COLLECTION	3.4 million volumes
CAMPUS LAND AREA	5,993 acres
CAMPUS BUILDINGS	6.6 million assignable square feet
HOSPITAL AND CLINICS	1.5 million assignable square feet
VETERINARY HOSPITAL	136,071 assignable square feet

## **DAVIS CAMPUS 2005-2010 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 five campus 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 enrollment enabled available capital resources to be concentrated on the

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

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serious deficiencies left from the earlier period, particularly the need to upgrade campus infrastructure and support systems, to correct safety and code deficiencies, and to renew or replace old and obsolete buildings. However, the campus continues to have 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 31 percent in the period 1999-00 to 2003-04, and is projected to reach 28,200 FTE (including summer-term and off-campus enrollments) by 2009-10.

### **Long Range Development Plan**

The 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 LRDP responds to anticipated growth in student enrollment, faculty and staff employment, and UC affiliated activities on the campus.

The 2003 LRDP addresses a campus three-quarter-average headcount enrollment of 32,000 in 2015-16. The LRDP proposes general types of campus development and land uses to support this 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 parking and facilities services, will need to be relocated from the core campus to more appropriate locations.

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

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### **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 effects of age and heavy use. Many facilities require renewal and modernization. Capital funds have been targeted to upgrade these aged facilities and improve their operational efficiency. Capital projects for the sciences will upgrade and replace unsuitable 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 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 to correct the problem of clinical facilities that are physically remote from the teaching, research, and central administration functions of the School. Major facilities improvements also are needed for the School of Medicine. Upgraded facilities are needed for teaching programs, and the School has a significant shortage of research facilities.

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

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**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, steam, 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 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 Veterinary Medicine 3B, Electrical Improvements Phase 3, and the Campus Wastewater Treatment Plant Expansion Phase 1. Other major projects currently programmed that will be funded entirely from non-State sources include the Neuroscience Building, the Veterinary Medicine Instructional Facility, the Tahoe Environmental Research Center, and the Mathematical Sciences Building. The amount of available non-State funds is limited, however, constraining options to support enrollment increases and still maintain program quality without additional State support.

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

DAVIS CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-10	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
4	Physical Sciences Expansion (932180)	P 2,235	W 2,533 C 43,747		E [1,206] X			48,515 [1,206]
10	Steam Expansion Phase 1 (950740)	P [559] X	W 640 C 9,843 C [1,520] X					10,483 [2,079]
14	Electrical Improvements Phase 3 (936073)	P [488] X	W 550 C 9,616 C [1,550] X					10,166 [2,038]
	Music Building (932160)			P [510] X W 510 C 10,290		E [485] X		10,800 [995]
	Veterinary Medicine 3B (954140)			P 1,630 P [2,640] G W 4,230	C 4,780	C 47,900 C [23,750] G		58,540 [26,390]
	King Hall Improvements (950340)			P 530 P [500] G W 1,030 C 15,350 C [3,230] G				16,910 [3,730]
	Electrical Improvements Phase 4 (936074)			P 265 W 265	C 3,600			4,130
	Engineering 4 (950360)				P 860 P [860] G	W 860 W [860] G	C 28,925 C [8,455] G	30,645 [10,175]
	Briggs Hall Safety Renovations Phase 2 (950700)					P 300	W 300	6,940
	Thurman Laboratory Seismic Correction (954120)				P 30 GF W 20 GF C 330 GF			380
	Haring Hall Renovations (950980)					P 315	W 1,270	16,050
	Chilled Water System Improvements Phase 7 (950970)					P 210	W 265	10,135
	<b>CAMPUS TOTAL</b>		<b>66,929 [3,070]</b>	<b>34,100 [6,880]</b>	<b>9,620 [2,066]</b>	<b>49,585 [25,095]</b>	<b>30,760 [8,455]</b>	

**DAVIS CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

- 4. Physical Sciences Expansion..... WC \$46,280,000  
E \$[1,206,000]X**

State funding is requested for working drawings and construction of the Physical Sciences Expansion project. The 51,250 asf project will comprise instructional laboratories and service, special class laboratories, research laboratories and service, research offices, and academic and departmental administrative offices and support space. It will provide facilities for the Departments of Geology, Chemistry, and Physics. The Physical Sciences Expansion will replace obsolete and inadequate teaching and research laboratories, for all three departments and release existing space to the Department of Physics to support expansion of its programs.

- 10. Steam Expansion Phase 1..... WC \$ 10,483,000  
C \$ [1,520,000]X**

State funds are requested for working drawings and construction to expand the capacity of the campus steam system to support continuing growth of enrollment and academic programs. The project will provide a new 150,000 pound-per-hour boiler and ancillary equipment in a 5,900 gsf addition to the existing Central Heating and Cooling Plant.

- 14. Electrical Improvements Phase 3..... WC \$ 10,166,000  
C \$ [1,550,000]X**

State funds are requested for working drawings and construction of the Electrical Improvements Phase 3 project. Campus demand for electrical service is expected to exceed reliable 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 in addition to the central and west portions of the campus. The project includes the service feed from

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

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the point of connection and the distribution system from the new substation to the Health Sciences District switchgear.

**Music Building**..... PWC \$ 10,800,000  
PE \$ [995,000] X

The Music Building project will provide modern music recital space for the Davis campus, advancing the campus commitment to the fine arts. The approximately 12,000 asf project will include a recital hall facility, recital hall support space, and instructional and administrative space for the Department of Music. The Music department facilities are currently inadequate to support existing instruction and research needs.

**Veterinary Medicine 3B**..... PWC \$ 58,540,000  
PWC \$ [26,390,000]G

Veterinary Medicine 3B will continue a phased program of new construction and renovation to provide 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 research laboratory, laboratory support, and office space and new clinical space at the site of the Veterinary Medical Teaching Hospital, replacing obsolete and inadequate space in Haring Hall, allowing release of that facility to meet academic needs of programs in the core campus where it is located.

**King Hall Improvements**..... PWC \$ 16,910,000  
PC [3,730,000] G

The King Hall Improvements project will expand and renovate the aging building to meet the needs of the program and address existing deficiencies. Studies have shown that the amount of space assigned to the law program is among the smallest in assignable square footage per student in the country. Quality of the space is also sub-standard. The project will include teaching, faculty, student, and library space to accommodate enrollment.



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

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### **Electrical Improvements Phase 4..... PWC \$ 4,130,000**

Completion of the proposed Electrical Improvements Phase 3 project will provide the campus with sufficient electrical service capacity to meet needs until 2010. To provide 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 to meet projected demand and to provide appropriate system redundancy to ensure reliable electrical service.

### **Engineering 4..... PWC \$ 30,645,000 PWC \$[10,175,000]G**

This project will provide approximately 50,000 asf of new teaching and research facilities for the College of Engineering, including 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 space needs of the College of Engineering to the year 2010-11.

### **Seismic Corrections – Thurman Laboratory ..... PWC \$ 380,000 GF**

Seismic corrections for Thurman Laboratory (also known as the CAHFS Veterinary Diagnostic Laboratory) 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 will correct the seismic deficiencies and improve the lateral-load-resisting system of the building to achieve an acceptable level of life safety.

### **Briggs Hall Safety Renovations Phase 2..... PWC \$ 6,940,000**

The Briggs Hall Safety Renovations project consists of improvements to bring the building into compliance with health and safety code requirements. The work includes upgrades for occupancy separations,

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

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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 \$ 16,050,000**

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 laboratory and office uses. After renovation, the building is expected to be occupied by departments within the College of Letters and Sciences, where programs are in need of additional space to address enrollment growth.

### **Chilled Water System**

#### **Improvements Phase 7..... PWC \$ 10,135,000**

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:** A phased program of new construction and renovation of existing facilities is underway to provide the School of Veterinary Medicine with 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 and the Veterinary Medicine Instructional Facility projects currently under construction and the proposed Veterinary Medicine 3B project, the School will need the research laboratories and other facilities planned in Veterinary Medicine 3C, and related campus-funded projects, to meet the full needs 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 spaces than are currently available in these buildings. Future capital projects are needed to renovate existing buildings and provide 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 Veihmeyer Hall 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 provide for growth will need to be constructed for several academic and support programs with specialized needs, such as

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

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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, and the necessary infrastructure will have to be provided to support agricultural operations.

**Biological Sciences:** Programs in the biological sciences require 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.

New facilities are needed to replace obsolete and insufficient space for biological sciences and neuroscience programs. A new building is proposed to provide space for the Center for Neuroscience and to improve research support 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 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.

**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 to provide adequate teaching facilities, support space, and performance 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 will be constructed to replace temporary facilities and provide much-needed student and faculty studio space.

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

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**Environmental Design:** The Environmental Design program will become part of the Humanities, Arts, and Cultural Studies Division. The crowded and obsolete facilities of the Environmental Design program will need to be replaced.

**Social Sciences:** After completion of Veterinary Medicine 3B, space in Haring Hall will be released to the campus and renovated for programs in the Division of Social Sciences. Released space in Young Hall also will need to be renovated to provide modern facilities needed to accommodate growth in the teaching and research programs of 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. A new Education Building in Sacramento will provide replacement instructional facilities with 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 newly completed Genome and Biomedical Sciences Facility will provide some replacement research space, there will continue to be a deficiency of research laboratories and laboratory support space. The School needs additional facilities, both in Davis and in Sacramento, to correct this deficiency. The Sacramento facilities 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

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

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need for renovation of current 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 in addition to the physical sciences and engineering. The vacated 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 research 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 support the reassignment of 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. An initial phase of relocation is underway, and a new Service Unit Park is planned on the West Campus.

### **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.

## DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)

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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, known as the West Village, 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, West Village could provide up to 475 faculty and staff housing units and 1,080 student and mixed-use units. Additionally, the West Village 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 ground leases, an approach that has been successful on the Davis campus. Infill projects at the Tercero complex are planned, in addition to the development of the new West Village.

**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

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

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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 to the 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 by 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 that are underway to structurally correct or replace seismically deficient space to 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 2003-2004 (ACTUAL)	19,344 FTE undergraduates 2,940 graduate students 1,105 health science students
LIBRARY COLLECTION	2.4 million volumes
CAMPUS LAND AREA	1,543 acres
CAMPUS BUILDINGS	5.0 million assignable square feet
HOSPITAL AND CLINICS	639,807 assignable square feet

## **IRVINE CAMPUS 2005-2010 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. As indicated by the award of Nobel prizes for physics and chemistry in 1995 and for chemistry in 2004, 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 Health Sciences.

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 decade, however, far exceed earlier projections. 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 at least 30,000 FTE students.

UCI's general campus enrollment has increased approximately 42 percent in the last five years, from 15,700 FTE in 1998-99 to a total of 22,284 FTE in 2003-04. This has resulted in a serious shortfall in facility capacity, creating many problems for programs and the campus. By 2010-11, projections indicate a total of 28,540 FTE, an increase of approximately 28 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 systems

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

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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 recent years has been placed on the sciences in response to workforce demands from California's high-technology industries. The first part of the currently proposed capital program continues progress on projects that will address UCI's urgent need for more space for the sciences, including new space for Computer Science, Biological Sciences, and Engineering. A newly proposed project, the Social and Behavioral Sciences Building, will accommodate growth in the Schools of Social Sciences and Social Ecology, which together comprise more than 37 percent of all majors at UCI and nearly 31 percent of the total campus workload. Projects planned later in the program address other high-priority needs, including additional space for Humanities, the Arts, the Graduate School of Management, and another science project 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: 30 academic buildings on the main campus are at least 20 years old, and a number have seriously deteriorated. Building systems have become inefficient or obsolete and 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 needed to accommodate new programs and technology as well as to respond to building deterioration and 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. Later in the program, a project to renovate Steinhaus Hall, UCI's original science building, is proposed.

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

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In addition, there is a continuing need to replace 59,500 asf of inadequate trailers and other interim facilities used for instruction and research-related activities.

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 2004, and the seismically "Poor" main hospital building at the UCI Medical Center will be replaced using a combination of State SB 1953 funds and non-State funds. Non-State-supportable facilities, including other buildings at the medical center, are being upgraded as funding is obtained.

- **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

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

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budgets of several State-funded projects, including Natural Sciences Unit 2, Computer Science Unit 3, Biological Sciences Unit 3, and 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 have made it difficult to maintain this level of funding for capital projects from campus resources.

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

IRVINE CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-10	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
---	Computer Science Unit 3 (992130)	P 1,779 W 954 C 29,089 C [12,798] LB	E 3,025 E [3,025] X					34,847 [15,823]
1	Engineering Unit 3 (990073)	P 2,218 W 1,222 C [8,591] LB	C 47,347	E 3,176	E [3,176] X			53,963 [11,767]
11	Social and Behavioral Sciences Building (991268)		P 2,280 W 570	C 35,150		E 2,700 E [2,700] X		40,700 [2,700]
	Biological Sciences Unit 3 (991835)	P 2,350 W 1,242 C [17,372] LB C 50,120		E 3,176 E [3,176] X				56,888 [20,548]
	Primary Electrical Improvements Step 3			P 70 W 70 C 1,476				1,616
	Humanities/Arts Building			P 2,490 W 630	C 38,580		E 2,015	43,715
	Classroom Renovations			P 140 W 135 C 2,535				2,810
	Instruction and Research Building				P 895 P [865] G W 485 W [465] G	C 20,600 C [19,785] G		21,980 [23,130]
	Primary Electrical Improvements Step 4					P 370	W 420	9,710
	Physical and Engineering Sciences					P 3,250 W 810	C 46,550	53,635
	Steinhaus Hall Renovations and Seismic Improvements						P 875 W 925	20,585
	<b>CAMPUS TOTAL</b>		<b>53,222 [3,025]</b>	<b>49,048 [3,176]</b>	<b>39,960 [4,506]</b>	<b>27,730 [22,485]</b>	<b>50,785</b>	

**IRVINE CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

— **Computer Science Unit 3.....** **E \$ 3,025,000**  
**E \$ [3,025,000]X**

State funds are requested to equip Computer Science Unit 3, a project that will provide 90,844 asf for the Donald Bren School of Information and Computer Science (ICS), general assignment classrooms, and surge space. 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 will be needed for general assignment classrooms and for academic units across the campus to accommodate increased enrollment. To address these needs, Computer Science Unit 3 will provide approximately 49,400 asf of instruction and research space and academic and administrative office space for ICS, approximately 13,800 asf to accommodate thirteen classrooms with a total of 780 seats, and 27,600 asf of surge space to meet the highest priority needs of the campus.

**1. Engineering Unit 3.....** **CE \$ 50,523,000**  
**E \$ [3,176,000]X**

State funds are requested for construction of 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 58 percent by 2009-10. While several existing projects, including Natural Sciences Unit 2, Rowland Hall Seismic

**IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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Improvements, and Cal-(IT)<sup>2</sup> will help accommodate some of this growth, more space is needed. Additional space 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.

11. **Social and Behavioral Sciences Building**..... PWCE \$ 40,700,000  
E \$ [2,700,000]X

State funds are requested to prepare preliminary plans and working drawings for the Social and Behavioral Sciences Building, a project that will provide a total of 64,100 asf of space for the Schools of Social Sciences and Social Ecology. The campus has experienced significant growth in the last several years and is expected to continue to grow at least through the end of the decade. The Schools of Social Sciences and Social Ecology already are experiencing shortages of all types of space: the Schools have a severe shortage of computer class laboratories, and research and office spaces are overcrowded. The proposed project will help address these needs by providing instructional and research laboratories and academic and administrative offices to support growth in these disciplines.

- Biological Sciences Unit** ..... E \$ 3,176,000  
E \$[3,176,000]X

This project will provide a total of 90,485 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. Space also will 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 69,485 asf for research laboratories, faculty and



## IRVINE CAMPUS CAPITAL PROGRAM (continued)

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administrative office space, and research support 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.

### **Primary Electrical Improvements**

**Step 3..... PWC \$1,616,000**

This project will upgrade the campus electrical distribution system to accommodate the projected campus electrical load in 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 useful 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 \$ 43,715,000**

This project will help accommodate enrollment and program growth in the School of Humanities and the Claire Trevor School of the Arts. Although new buildings for these programs were completed in the 1990s, those facilities primarily addressed 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 65,000 asf to house class laboratories, faculty offices, research and scholarly activity spaces, and other requirements of the Schools.

## IRVINE CAMPUS CAPITAL PROGRAM (continued)

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### **Classroom Renovations ..... PWC \$ 2,810,000**

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 PWC \$ 21,980,000** **Building..... PWCE \$[23,130,000]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 in total enrollment of approximately 30 percent by the end of the decade. 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 all the projected growth, the School requires additional space. The proposed project will provide approximately 75,000 asf of adequate, consolidated space for the Graduate School of Management 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 \$ 9,710,000**

This project will expand campus electrical substation capacity to accommodate the campus's projected electrical load. The campus is expected to grow substantially through the decade in response to increasing enrollments. Construction forecasts indicate that by 2008 the campus electrical load will exceed the existing substation 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 the service capacity and power delivery capacity to support new campus loads through 2013.

**Physical and Engineering Sciences..... PWCE \$ 53,635,000**

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 approximately 74,000 ASF to accommodate teaching laboratories, research facilities, faculty and administrative offices, and other requirements of the Schools of Engineering and Physical Sciences.

**Steinhaus Hall Renovations  
and Seismic Improvements... ..PWC \$ 20,585,000**

Steinhaus Hall, which was completed in 1965, is UCI's first science building. In the early 1990s, the building underwent limited interior and building system modifications; however, much of the building requires further repair or replacement to continue to provide safe and functional space to the School of Biological Sciences. The HVAC, exhaust, and air distribution systems in the building do not have adequate capacity to keep pace with the rapid advances in scientific techniques. The building's steam system and security systems also are obsolete. Water damage is causing the precast concrete cladding around the building's windows to break and

## IRVINE CAMPUS CAPITAL PROGRAM (continued)

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fall off, resulting in falling hazards and reduced structural resistance to seismic forces. The proposed project will include removing and replacing the precast concrete cladding around the building's windows, renovating the HVAC system, upgrading the steam distribution system, replacing the building security system, and upgrading the obsolete elevator controls. In addition, the project will address code-required ADA and fire and life-safety improvements, including path-of-travel upgrades and removal of hazardous materials such as asbestos.

## **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 School of Information and Computer Science 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:** The School of Social Sciences has both the greatest number of majors and the highest workload on the campus. Together, the Schools of Social Sciences and Social Ecology are projected to enroll nearly 1,900 additional student FTE by 2010-11. 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 proposed in the current five-year program,

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

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additional instruction, research, and office space will continue to be required to accommodate anticipated growth.

**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 under 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 master's and doctoral levels that will focus on mathematics and science education. Significant growth is projected in the teaching credential program over the next few years in response to California's workforce needs. To support the program and enrollment growth anticipated by both these academic units, additional facilities will be required beyond those 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, and library staff work space, and to complete technological modernization 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 on human diseases, space is needed to support interdisciplinary studies related to

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

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areas such as cardiopulmonary medicine and biomedical engineering. The School of Medicine envisions the construction of a 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 5459,500 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 and development, office, and residential uses. This plan 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 in on the main campus or another suitable location.

**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 eventual 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; childcare 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.

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

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Construction of new office facilities is required to provide adequate space on campus for administrative functions.

### **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 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 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 reclaimed water, 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 for 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 capacity 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.

**UCI Medical Center Electrical and Site Utilities:** Upgrades to existing electrical and heating and cooling systems are required to

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

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

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

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### **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 2003-2004 (ACTUAL)	25,551 FTE undergraduates 7,870 graduate students 3,839 health science students
LIBRARY COLLECTION	7.7 million volumes
CAMPUS LAND AREA	419 acres
CAMPUS BUILDINGS	10.3 million assignable square feet
HOSPITAL AND CLINICS	1.7 million assignable square feet

## **LOS ANGELES CAMPUS 2005-2010 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

The Westwood campus opened its doors in 1929 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. 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 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 less-structured interdisciplinary efforts.

Campus facilities require renovation and replacement as obsolescence and normal aging of building systems occur. Disciplines with sophisticated research requirements, such as those in the physical and life sciences, have increasing difficulty in supporting their 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, and most of the general campus buildings rated seismically "Poor" or "Very Poor" have been structurally upgraded or are being upgraded. The campus State-funded five-year capital program is weighted with projects to address the remainder. The need for strengthening 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 disaster recovery efforts to provide correction of damaged buildings as quickly as possible has been largely successful, and the seismic correction of core campus buildings is now nearing completion, with detailed planning in process for the remaining buildings. Work is underway on two replacement hospitals and on other replacement

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

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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 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 also land resources (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 insufficient 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. Technological innovations and pedagogical advances often require facility renovation or replacement for their implementation.

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

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The campus continues to be committed to long-term comprehensive planning efforts that focus on program priorities and 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 and to complete repairs needed after the Northridge earthquake while minimizing the negative impacts of extensive and disruptive construction activities on the academic program. These corrections include the few remaining deficient 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 fire alarm and sprinkler systems remain a necessity 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 are needed to support the programs in existing facilities.

### **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 in 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, including professional schools, health sciences, and fine arts.

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 —life safety corrections, primary and building infrastructure renewal and upgrades, and



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

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academic program improvements, (2) continued use of private funds to supplement limited State funds, and (3) continued urban renewal of the campus.

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

LOS ANGELES CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2005-06  (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2006-07  (000s)	2007-08  (000s)	2008-09  (000s)	2009-10  (000s)	
6	Life Sciences Replacement Building (943500)	P 2,200 P [1,003] LB	W 4,740 C 47,302 C [5,876] LB	C 16,080 C [13,118] LB E [1,311] X				70,322 [21,308]
	CHS South Tower Seismic Renovation Phase B (948717)				P 3,165	W 4,645	C 30,615 C [44,715] LB	55,725 [44,715]
	CHS South Tower Seismic Renovation Phase A (948717)	P [5,700] LB W 2,500 W [1,700] LB					C 54,209 C [36,806] LB	56,709 [44,206]
	Engineering Addition						P 3,150	34,800 [28,500]
	<b>CAMPUS TOTAL</b>		<b>52,042 [5,876]</b>	<b>16,080 [14,429]</b>	<b>3,165</b>	<b>58,854 [36,806]</b>	<b>33,765 [44,715]</b>	

**LOS ANGELES CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

<b>6. Life Sciences Replacement Building.....</b>	<b>WC \$ 68,122,000</b>
	<b>C \$ [18,994,000]LB</b>
	<b>E \$ [1,311,000]X</b>

State funds are requested for working drawings and the first phase of construction of 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 or upgrade, and is considered a high-risk scientific research environment. The new building would accommodate portions of the Department of Molecular, Cell and Developmental Biology; the Department of Physiological Science; and the Department of Organismic Biology, Ecology and Evolution. The 87,238 asf replacement building would be constructed in two phases: Phase 1 would provide a 57,248 asf building to accommodate research laboratories, 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.

**CHS South Tower Seismic**

<b>Renovation Phase B.....</b>	<b>PWC \$ 55,725,000</b>
	<b>C \$ [44,715,000]LB</b>

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. This Phase B project would renovate 186,000 asf on floors 1 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.

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

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**CHS South Tower Seismic**

**Renovation Phase A..... C \$ 54,209,000**  
**C \$ [36,806,000]LB**

This project will 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 materials abatement, and correction of accessibility code deficiencies.

**Engineering Addition .....PWC \$ 34,800,000**  
**C \$ [28,500,000]G**

The anticipated growth in Engineering enrollment will require additional space for instruction and research. In the proposed project, a new building would be built adjacent to the Engineering 1 Replacement Building currently under construction.

## 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 needs 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 is needed to continue the development of comprehensive programs in cellular, molecular, and developmental

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

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aspects of neurobiology, biotechnology, and plant sciences. The undergraduate curriculum also is changing rapidly to provide greater exposure to contemporary laboratory technology. Obsolete and 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 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 unaddressed.

- **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 technologies 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.

**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 and practitioners, influence educational practice and policy, and develop model training programs. The School has identified needs for expanded teacher training facilities and program support space.

## **LOS ANGELES 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.

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.



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

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**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 and 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 been addressed, including consolidation of services into a student activities center and a new student health facility.

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

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### **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 Building 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. Health Sciences Seismic Replacement Building 1, part of the multiphase reconstruction plan, was recently completed.

### **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 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.

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

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### **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 at 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 under way, 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 serious injuries, loss of life, and property damage that 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 than are currently in effect. Many of these buildings have 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 address the damaged general campus buildings are completed or are being completed, and detailed planning is under way on the remaining

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

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“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 at 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 under way 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 2005-2010 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

Development of UC Merced is part of the University's strategy to increase enrollment capacity and to provide access to students in the San Joaquin Valley. UC Merced will open in fall 2005 with 1,000 students, including approximately 900 undergraduate and 100 graduate students. Enrollment is scheduled to increase by 800 students per year thereafter. The campus initially will offer nine undergraduate majors and graduate programs in four individual program areas within its three schools.

As of fall 2004, more than 30 faculty had been hired. It is planned that the campus will open with 60 regular and 15 temporary faculty. The University's core academic programs will be offered through three schools: Engineering, Natural Sciences and Social Sciences, Humanities and Arts. At opening day, the approved undergraduate programs will include degree programs in: Bioengineering; Biological Sciences; Computer Science and Engineering; Earth Systems Science; Environmental Engineering; Human Biology; Management; Social, Behavioral, and Cognitive Sciences; and World Cultures and History. Individual graduate programs will be offered with emphasis in Environmental Systems; Molecular Science and Engineering; Quantitative and Systems Biology; and Social, Behavioral, and Cognitive Sciences. Additional graduate programs with emphases in Computer and Information Systems and World Cultures are planned.

The Sierra Nevada Research Institute has been established, and the campus has plans to form a World Cultures Institute. As with the academic programs, UC Merced's research institutes will foster collaboration across disciplinary lines. Partnerships with other UC campuses and with entities such as Lawrence Livermore National Laboratory and Sequoia/Kings Canyon and Yosemite National Parks will enhance education and research at UC Merced.

UC Merced already provides many economic benefits to the San Joaquin Valley and will continue to gain importance in this role. As a major employer and user of services, it continues to be a significant and growing contributor to

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

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the regional economy. Through its public service programs, such as its lead role in the region's Small Business Development Centers, UC Merced advances and supports employment growth and business expansion.

Construction of the initial campus infrastructure and buildings began in 2002. The campus site is served by off-campus utilities including water, sewer, natural gas, data/telecommunications and a dual-feed electric service that are now all in place. The first structure completed will be the Central Utility Plant in late 2004. The first student housing and dining project is scheduled for completion by Summer 2005. The Classroom and Office Building, Library and Information Technology Center, and Science and Engineering Building 1 will be completed to support instruction in the 2005-06 academic year.

UC Merced has integrated environmental stewardship into its planning and construction efforts for campus buildings. UC Merced is already a model for responsible and sustainable development in the Central Valley. Current campus development is part of a future long-range plan for a 2,000-acre site as identified in the campus LRDP. Eventual steady-state development will accommodate 25,000 student FTE. A total of 5,000 student FTE will be accommodated by 2010-11.

Both the campus Long Range Development Plan and the University Community Plan envision close connections between the core campus and the adjacent "town center" with compatible services and businesses to form the heart of the University community, including 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.

Two buildings at the former Castle Air Force Base in the adjacent community of Atwater have provided an interim facility for use by the initial administration and start-up faculty with their graduate students and technical staff, establishing the structure of the academic programs and planning courses. 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 UC-eligible community college students will transfer to UC Merced in their junior year.

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

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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, acquired 5,750 acres for conservation, including a 750-acre natural reserve contiguous to the UC Merced campus. These efforts have contributed greatly toward the establishment of a regionally based conservation effort in eastern Merced County, and they will support the teaching and research mission of the campus.



2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

MERCED CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2005-06  (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2006-07  (000s)	2007-08  (000s)	2008-09  (000s)	2009-10  (000s)	
	Social Sciences and Management (900060)			P 1,600 W 2,200	C 34,050		E 3,325	41,175
	Science and Engineering Building 2 (900020)			P 2,300	W 2,500	C 34,100		42,900
	<b>CAMPUS TOTAL</b>			<b>6,100</b>	<b>36,550</b>	<b>34,100</b>	<b>3,325</b>	

**MERCED CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**Social Sciences and  
Management .....PWCE \$ 41,175,000**

A new 60,000 asf Social Sciences and Management building is proposed to accommodate workload growth; to provide instruction and research space for undergraduate business education programs; and to support research in the social sciences, arts, and humanities. The facility would provide research space and faculty offices for laboratory-based social scientists, case study rooms, open computer laboratories, scholarly activity space, and department administrative space for the division. A small amount of production and studio space for the arts would also be provided.

**Science and Engineering  
Building 2 .....PWCE \$ 42,900,000**

The second building planned for the School of Natural Sciences and the School of Engineering will provide additional research, office, and instructional space (51,500 asf) to accommodate growth in student enrollment and faculty workload. The academic programs expected to occupy the building include Bioengineering, Earth Systems Sciences, Organic Chemistry, Chemical and Quantitative Biology, and Materials and Chemical Engineering. The new facility would provide instructional, research laboratory, and administrative and support space for these developing 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 2008. This first phase includes campus site development and infrastructure, academic facilities, logistics and support buildings, housing and food service, recreational and wellness facilities, and surface parking lots. Construction began during 2002. By 2010-11, additional facilities will be needed to support an enrollment of 5,000 FTE students.

UC Merced's goal is to house 50 percent of students on campus. Support program elements are expected to include an array of recreational and health related programs and activities for students, staff, and faculty. Bicycle, pedestrian, and transit system improvements will be developed to minimize reliance on automobiles, although additional parking facilities will also be needed to accommodate campus growth.



# **RIVERSIDE CAMPUS**

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## Capital Improvement Program

ESTABLISHED	1907
ENROLLMENT 2003-2004 (ACTUAL)	13,646 FTE undergraduates 1,762 graduate students 49 health science students
LIBRARY COLLECTION	2.3 million volumes
CAMPUS LAND AREA	1,200 acres
CAMPUS BUILDINGS	3.6 million assignable square feet

## **RIVERSIDE CAMPUS 2005-2010 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 steadily 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 2003-04, general campus enrollment was 15,408 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 at Riverside to increase to 20,320 FTE by 2010-11 for an increase of 32 percent from 2003-04, 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 2004-05.

## **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 materials sciences, genomics, bioengineering, 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 projected 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 life-safety, 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 accessibility or code-related deficiencies, are obsolete due to emergence of new methods and technologies in teaching and research (including related demands on outdated building systems), 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,

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

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and location. Existing facilities will be improved, alterations will be provided that allow new occupants to make effective use of reassigned space, life safety 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 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 long-term program development.
- **Professional Schools:** The campus LRDP envisions establishment of additional professional schools and sites, as well as the development of West Campus 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.



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

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**Pedestrian and Vehicular Circulation:** To address existing circulation problems and prepare for the future while maintaining a park-like campus, 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, and State Highway 215/60 freeway-access points.

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

RIVERSIDE CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED		PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
		(000s)			(000s)	2006-07 (000s)	2007-08 (000s)	2008-09 (000s)	
2	Materials Science and Engineering Building (950450)	P 1,600 W 2,149	C 50,549			E 4,370			58,668
15	Environmental Health and Safety Expansion (950456)		P 400 W 600	C 10,614			E 350		11,964
17	Student Academic Support Services Building (950457)		P 750 W 900	C 16,868			E 862		19,380
	College of Humanities and Social Sciences Instruction and Research Facility (950377)	P 937 W 1,561 C 28,729			E 908				32,135
	Psychology Building (950451)	P 1,075 W 1,166 C 30,192			E 1,940				34,373
	Geology Renovations Phase 2				P 315 W 530 C 8,180				9,025
	Culver Center				P [445] G W 630	C 7,070 C [2,255] G		E [1,600] G	7,700 [4,300]
	Boyce and Webber Hall Renovations Phase 1				P 530 W 845	C 15,725			17,100
	Boyce and Webber Hall Renovations Phase 2				P 420	W 740	C 11,300		12,460
	East Campus Infrastructure Improvements Phase 2					P 420 W 600	C 9,315		10,335
	Bioengineering Building					P 1,270	W 1,900	C 38,000	44,700
	Spieth Hall Renovations (950458)						P 320 W 530	C 12,660	13,510
	East Campus Infrastructure Improvements Phase 3							P 210 W 420	12,855
	West Campus Infrastructure Improvements (950414)							P 210 W 420	8,550
	<b>CAMPUS TOTAL</b>			<b>53,199</b>	<b>41,780</b> [445]	<b>30,195</b> [2,255]	<b>24,577</b>	<b>51,920</b> [1,600]	

**RIVERSIDE CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**2. Materials Science and  
Engineering Building.....CE \$ 54,919,000**

State funds are requested for the construction of 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 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.

**15. Environmental Health and  
Safety Expansion.....PWCE \$ 11,964,000**

State funds are requested for preliminary plans and working drawings for the Environmental Health and Safety Expansion. This project will provide approximately 18,000 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.

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

State funds are requested for preliminary plans and working drawings for the Student Academic Support Services Building. This project will provide a new building of approximately 37,400 asf for student academic 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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### **College of Humanities and Social Sciences Instruction and Research Facility..... E \$ 908,000**

This project will construct approximately 68,000 asf of instructional, research, and office space for several interdisciplinary academic programs of the College of Humanities and Social Sciences. 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.

### **Psychology Building..... E \$ 1,940,000**

The 52,385 assignable square foot Psychology Building will provide space for interdisciplinary instructional and research programs in Psychology. It 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 research-support facility to support UCR's growing research needs.

### **Geology Renovations Phase 2 ..... PWC \$ 9,025,000**

The Geology Renovations Phase 2 project will include the renovation and upgrade of approximately 28,000 asf in the unrenovated areas of the Geology Building that were not included in the previous phase of work. Renovations associated with this project will provide improvements for the Department of Earth Sciences and the Institute of Geophysics and Planetary Physics (IGPP). These renovations have been phased to coordinate with the earlier upgrades included in the State-funded Geology and Physics Renovations project.

### **Culver Center..... WC \$ 7,700,000 PCE \$[4,300,000]G**

This project will renovate 31,325 asf of space within the Rouse Building in downtown Riverside. The building and property were acquired by the University in 2002. The project will provide facilities for

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

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instruction and research for interdisciplinary studio and performing arts programs in dance, music, theatre, film, and other arts disciplines. Upon completion, the project will accommodate high technology/digital media space to meet growing research, performance, and practice needs of arts faculty and students.

### **Boyce and Webber Hall Renovations**

**Phase 1 ..... PWC \$ 17,100,000**

This renovation and upgrade of 53,000 asf in Boyce and Webber Halls will include hazardous materials abatement, upgrade of building infrastructure systems, laboratory improvements, and accessibility corrections. The completed project will provide flexible and adaptable laboratory space for research programs in Biochemistry, Nematology, and Plant Pathology as well as other biologically oriented research programs. In addition, Boyce Hall houses research support facilities that are poorly configured and have deficient infrastructure to support modern research initiatives and protocols. The completed project will selectively upgrade and reconfigure the highest priority areas of Boyce Hall to provide a safe and efficient research environment.

### **Boyce and Webber Hall Renovations**

**Phase 2 ..... PWC \$ 12,460,000**

The second phase of the Boyce and Webber Hall Renovation project will upgrade the remaining 40,000 asf of these two buildings, completing the renovation of both facilities.

### **East Campus Infrastructure**

**Improvements Phase 2 ..... PWC \$ 10,335,000**

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 the incremental conversion of the campus 5kV electrical system to a modern 12kV system. These infrastructure improvements are required to accommodate the demand on campus systems as enrollment continues to increase.

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

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### **Bioengineering Building .....PWCE \$ 44,700,000**

This project will provide approximately 77,000 asf of laboratories, laboratory support, and academic office facilities to address enrollment growth in the College of Engineering and the College of Natural and Agricultural Sciences. The building will house 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 include approximately 18,000 asf of general assignment classrooms for the campus.

### **Spieth Hall Renovations ..... PWC \$ 13,510,000**

The phased renovation and building systems upgrade of the 61,000 asf Spieth Hall/Life Sciences Building will include hazardous materials abatements, upgrade of building infrastructure systems, laboratory improvements, and accessibility corrections. The completed project will provide contemporary low-to-moderate intensity research laboratory space appropriate for current and proposed life sciences instruction and research programs.

### **East Campus Infrastructure Improvements Phase 3 ..... PWC \$ 12,855,000**

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 the incremental conversion of the campus 5kV electrical system to a modern 12kV system. These infrastructure improvements are required to accommodate the demand on campus systems as enrollment continues to increase. The work has been phased to coordinate with earlier infrastructure upgrade projects in the East Campus area.

### **West Campus Infrastructure Improvements ..... PWC \$ 8,550,000**

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-related improvements including

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

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domestic water, sanitary sewer, storm drain, natural gas, electrical power, communications systems, and vehicle access needed to support the initial academic development of the West Campus.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS**

The capital needs described below are reflected in Riverside's master space planning efforts, the 1990 LRDP, and the LRDP update expected to be completed in 2004-05. The rapid growth experienced by the campus in recent years has been accommodated in facilities that in many cases were constructed 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 in the longer term 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 central academic core on the East Campus, 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



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

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classroom space needed to meet enrollment levels defined in the LRDP will be included in major academic building projects as appropriate. 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 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, new and renovated instruction and research space such as the proposed Culver Center 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 for 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 advance of technology. The Engineering Building Unit 2 and Materials Science and Engineering Building projects will provide much-needed relief for many of these areas. However, anticipated growth of the College will require development of

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

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additional space, such as the Bioengineering Building proposed in the current five year capital program, as well as renovations of existing class laboratory and research laboratory space in response to evolving program needs and research initiatives.

**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 is currently housed in the central and south wings of Anderson Hall. 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.

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

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- **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. With performing arts programs and cultural exhibitions playing a major public service role in cultural life at UCR and in 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, coupled 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 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

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

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distributed beyond the East Campus Academic Core so they can have space to grow, and not limit the few remaining prime sites needed for the expansion of other student services and academic programs. In the LRDP update, approximately 60 acres are 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 next housing developments.

**Child Care Facilities:** The Campus Child Development Center, occupied in 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 housing developments.

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

**Roadway Accessibility:** Roadway improvements will be required as the academic core expands. Existing interior roadways will be transformed into a limited-access roadway system with priority for service and emergency vehicles. Pedestrian and bicycle-oriented 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.

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

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**Utilities Expansion and Modernization:** As the campus develops existing and new sites, the network of gas, domestic water, sanitary 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, ongoing renewal and expansion of aging or undersized utility systems will be needed to ensure stable and efficient service distribution. Concurrently, the campus is making provision 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, in accordance with the East Campus Entrance Area Study 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 and 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. Access routes for fire-safety vehicles and traffic control measures will be adjusted as the campus develops.

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

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

**Seismic Improvements:** The deficiencies of all State-supported buildings on campus that have been identified as seismically “Poor” or “Very Poor” have been corrected and only minor work remains on two other facilities.

# **SAN DIEGO CAMPUS**

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## Capital Improvement Program

ESTABLISHED	1912
ENROLLMENT 2003-2004 (ACTUAL)	19,002 FTE undergraduates 3,217 graduate students 1,403 health science students
LIBRARY COLLECTION	3.0 million volumes
CAMPUS LAND AREA	2,143 acres
CAMPUS BUILDINGS	7.3 million assignable square feet
HOSPITAL AND CLINICS	927,550 assignable square feet

## **SAN DIEGO CAMPUS 2005-2010 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. With an enrollment of 3,000 to 4,000 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, the School of Pharmacy and Pharmaceutical Science, and the Rady School of Management.

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 previous 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 has been prepared.

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



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

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needs, but space shortages remain, particularly in the Engineering and Natural Science disciplines. Continuing enrollment growth means the campus 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.

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

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

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

SAN DIEGO CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-2010	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
---	Biomedical Library Renovation and Addition (965130)	P 800 W 1,000 C 14,503 C [771] X	E 695					16,998 [771]
---	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 504					22,096 [8,129]
---	Mayer Hall Addition and Renovation (962710)	P 1,750 W 1,809 C 25,096	E 445	C 12,277				41,377
7	Music Building (962870)	P 1,711 W 2,091	C 36,125		E 2,129			42,056
13	Structural and Materials Engineering Building (962630)		P 3,067	W 3,748 C 61,347			E 3,000 E [4,000] X	71,162 [4,000]
	Satellite Utilities Plant Phase 2 (966158)			P 210 W 260	C 4,300			4,770
	Instructional Technology Building (963230)			P 1,850	W 2,200	C 36,500		42,550
	Sciences Building (963240)				P 2,900	W 3,040	C 43,000	51,440
	Medical Education Center (963250)						P 650 P [650] G	15,500 [15,500]
	Muir Biology Building Renovation and Addition (963260)						P 500	11,000
	<b>CAMPUS TOTAL</b>		<b>40,836</b>	<b>79,692</b>	<b>11,529</b>	<b>39,540</b>	<b>47,150 [4,650]</b>	

**SAN DIEGO CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM**

**--- Biomedical Library Renovation  
and Addition..... E \$ 695,000**

State funds are requested for equipment for the addition to the Biomedical Library. 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 28,670 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.

**--- Student Academic  
Services Facility ..... E \$504,000**

State funds are requested for equipment for 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.

**--- Mayer Hall Addition  
and Renovation..... CE \$12,722,000**

State funds are requested for equipment for the 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 35,300 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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of 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.

**7. Music Building ..... CE \$ 38,254,000**

State funds are requested for construction of 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.

**13. Structural and Materials**

**Engineering Building..... PWCE \$ 71,162,000  
E \$ [4,000,000] X**

State funds are requested for preliminary plans for the Structural and Materials Engineering Building. 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, specifically in the Department of Structural Engineering and the Materials and Engineering research group, and the Department of Visual Arts. 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 \$ 4,770,000**

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

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

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Phase 2 project is similar to the Phase 1 project and will provide an additional chiller and associated chilled water equipment and distribution systems and improve power distribution.

**Instructional Technology**

**Building ..... PWCE \$ 42,550,000**

This project will provide 63,000 asf within the University Center to consolidate Academic Computing Services (ACS), Media Center, Teacher Education Program (TEP), and the Academic Enrichment Program. In addition, 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.

**Sciences Building ..... PWCE \$ 51,440,000**

This project will provide approximately 65,000 asf of class laboratories, research laboratories, and office space for the Division of Biological Sciences. The project will address the significant space deficit projected for this academic division.

**Medical EducationCenter..... PWCE \$15,500,000**  
**PWCE \$15,500,000]G**

Current School of Medicine curriculum and teaching methods emphasize small group teaching and specialized facilities, including patient simulation rooms and highly sophisticated physiological monitoring systems. This project would provide a 35,000 asf medical education center to address those needs. It would include small group and conference rooms, a medical simulation center, and an educational computing center. The project would also make available space for curricular resources and evaluation and for the clinical skills development lab. Educational administration space would provide for curriculum and student affairs staff and counselors.

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

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**Muir Biology Building**

**Renovation and Addition .....PWC \$ 11,000,000**

The Muir Biology Building has serious deficiencies with respect to its infrastructure and life-safety requirements. In addition, renovation and addition to the building is necessary to bring the building up to an acceptable level of standard for its use as a research facility. A 7,000 asf office addition will be constructed to enable office functions to be moved out of existing laboratories to allow more effective use of space.

## 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 address life safety and renewal needs in existing facilities, but 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 Rady School of Management will become a 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 begins in Fall 2004, and construction is planned to commence in Winter 2005 on a gift-funded facility to accommodate this program on the North Campus.



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

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**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.

**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 South Neighborhood. The first one, the Center for Marine Genomics, Biotechnology and Biomedicine, addresses the need for substantially expanded research in the area of pharmaceuticals from the sea. The second is the Coastal Biophysical Research Center to study the biological and physical processes in near-shore waters.

This fiscal year, SIO will start construction of a new auditorium and meeting room complex, the Robert Paine Scripps Forum for Science, Society and the Environment. It is hoped that the existing Sumner Auditorium can be renovated in the near future to provide a large teaching facility at SIO. Several research and instructional buildings have deteriorated from age and the marine environment and suffer from inadequate mechanical, air cooling, and electrical systems that cannot sufficiently support modern science. The required renovation of these structures will ensure their adequacy for future research and student training and also improve their energy efficiency.

**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 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.

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

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### **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 still serving the needs of the community.

At the La Jolla campus, construction of a Cancer Center Facility that will consolidate cancer research and clinical activities will be completed in Winter 2005. In addition, plans are underway for a Cardiovascular Center, expansion of 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. To accommodate growing enrollments, expansion is planned for the Price (student) Center and older student-center facilities that are operating at full capacity.

### **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 implement 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. The campus is currently in the planning stages for graduate housing on the East Campus and housing for transfer/upper-division students on the North Campus.

### **5. Administrative and Support Facilities**

UCSD plans to redevelop the University Center area as the hub of campus activity and student life; 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, which have less frequent campus contact, at the periphery of campus.

### **6. 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.



# **SAN FRANCISCO CAMPUS**

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## Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2003-2004 (ACTUAL)	3,989 FTE health sciences students
LIBRARY COLLECTION	815,128 volumes
CAMPUS LAND AREA	180 acres
CAMPUS BUILDINGS	2.9 million assignable square feet
HOSPITAL AND CLINICS	1.2 million assignable square feet

## **SAN FRANCISCO CAMPUS 2005-2010 STATE-FUNDED PROGRAM**

### **INTRODUCTION**

The University of California, San Francisco, is a graduate health sciences campus with a 2003-04 enrollment of 3,989 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 site is changing. UCSF's approved LRDP, which will guide campus development for another 9 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; cardiovascular research; 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 new facilities at 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

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

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to upgrade central utility, laboratory, and academic support facilities to meet the demands of modern biomedical research and teaching programs.

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, such as for 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 UCSF Mission Bay campus site is providing substantial new program space in the near term, with significant additional development capacity planned for the long term. Programs relocating to Mission Bay from Parnassus will continue to 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 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

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

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upgrade the facilities at issue.

- 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.



2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

SAN FRANCISCO CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-10	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
8	Medical Sciences Building Improvements, Phase 2 (922880)	P 1,400 W 1,632	C 15,319	C 15,319				33,670
	Electrical Distribution Phase 2			P 525 P [180] X	W 845 W [225] X	C 14,265 C [2,240] X		15,635 [2,645]
	Medical Sciences Building Improvements Phase 3					P 685	W 930	16,150
	<b>CAMPUS TOTAL</b>		<b>15,319</b>	<b>15,844</b> <b>[180]</b>	<b>845</b> <b>[225]</b>	<b>14,950</b> <b>[2,240]</b>	<b>930</b>	

**SAN FRANCISCO CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**8. Medical Sciences Building  
Improvements, Phase 2..... C \$ 30,638,000**

State funds are requested for the first stage of construction 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 \$ 15,635,000  
PWC \$ [2,645,000]X**

This project covers the second phase of a five-phase program to upgrade the Parnassus campus electrical system. The project will increase electrical service continuity through the automation of the electrical distribution system and modernization of building substations. The project will also replace existing aged, deteriorated electrical cables with new cable sized to meet projected loads where required, and replace faulty circuit breakers with a modern electronically- monitored system. Other system improvements will address inadequacy in fault isolation and device coordination, and reduce the negative impact of electrical outages.

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

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**Medical Sciences Building**

**Improvements Phase 3.....PWC \$ 16,150,000**

This project will build upon the work completed through Phases 1 and 2 of the Medical Sciences Building 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, 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 addressed 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 has now constructed three biomedical research buildings and is in the process of constructing a new campus community center, housing, and structured parking.

**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 upgrades to meet capacity and performance requirements of modern research. Capital needs for research facilities include major improvement 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 disruption for faculty and students. Also, space released at Parnassus from the move of biomedical research to the Mission Bay campus must 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 patient care and other units at Moffitt and Long Hospitals in response to rapid changes in managed care and their impact on traditional clinical in-patient facilities. Special attention is being given to increasing the numbers of beds devoted to intensive and acute-care units and expanding the quantity of operating rooms. To create the space to do this within existing hospital buildings, the Medical Center has been relocating some of its diagnostic and lab-support functions to various off-site locations. 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 in-patient buildings are pending completion of an 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 satisfactorily address 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 housing or

## **SAN FRANCISCO OTHER CAPITAL NEEDS (continued)**

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demolished and the sites used to build new studio apartments for students, residents and post-doctoral scholars.

**Campus Housing at Mission Bay:** To meet the LRDP target of providing housing for 40 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, 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—to meet requirements.

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

**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. Improvements to parking and transportation systems will provide better movement to and between several key campus sites. UCSF experiences substantial deficits in parking supply at Parnassus and Mount Zion. On the other hand, UCSF has begun construction of two new parking structure projects for the new campus site at Mission Bay, in addition to completing new surface parking lots.

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

**Seismic Upgrade of Facilities:** The correction or removal 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 it will also reduce 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 are seismically unsound. The campus is developing plans in coordination with SFGH to correct the seismic deficiencies or provide alternative facilities.





# SANTA BARBARA CAMPUS

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## Capital Improvement Program

ESTABLISHED	1944
ENROLLMENT 2003-2004 (ACTUAL)	18,307 FTE undergraduates 2,972 graduate students
LIBRARY COLLECTION	2.8 million volumes
CAMPUS LAND AREA	815 acres
CAMPUS BUILDINGS	3.4 million assignable square feet

## **SANTA BARBARA CAMPUS 2005-2010 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. Once again the campus is experiencing a surge in new construction to meet the needs of its expanding instruction and research programs. Currently, the campus is occupying the recently completed Engineering-Science Building and the new non-state funded Marine Science Research Building. Two projects to serve the sciences are under construction as well as the State-supported California Nanosystems Institute facility. Projects starting construction this year include a seismic replacement building and a large complex that, in conjunction with follow-on renovations, will address the needs of 21 departments in the sciences, humanities, and social sciences. In 2005-06, State funding is requested to start design to correct the last State-supported academic building rated seismically "Poor." All of these improvements will greatly benefit the students, faculty, and staff at UCSB.

However, the age and quality of many existing campus instructional and research buildings as well as the existing campus infrastructure are of particular concern. Of the more than 1,000,000 asf devoted to instruction and research, over 70 percent of the space is at least 25 years old, and almost 30 percent is more than 40 years old. The campus utility system is beginning to show signs of failure, as many of the systems are over 40 years old and are in critical need of upgrade and expansion. A major study of the entire infrastructure of the campus, including roads, hardscape and landscape, and all utility systems is currently underway and will guide a coordinated improvement plan.

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

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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 21,279 FTE students enrolled at UCSB. 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.

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 and the California Nanosystems Institute are major steps 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 will be removed as new space becomes available.

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

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

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

SANTA BARBARA CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-10	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
---	Snidecor Hall Office Wing Seismic Replacement (988700)	P 496 P [10] X W 682 W [50] X C 10,566 C [705] X	E 405					12,149 [765]
	Education and Social Sciences Building (981240)	P 1,747 P [410] G W 2,369 W [577] G P [128] G W [161] G C 49,706 C [13,022] G		E 2,452 E [220] G				56,274 [14,518]
	Arts Building Seismic Corrections and Renewal (988720)			P 865 W 975	C 18,160			20,000
	Electrical Infrastructure Renewal Phase 2 (986020)	P [410] X W 400 C 6,905	W [372] X	C 5,919 C [2,214] X				13,224 [2,996]
	Davidson Library Addition and Renewal (981230)			P 1,250	W 2,000	C 36,900	C 18,450	59,600
	Humanities, Sciences, and Social Sciences Renovations (981250)			P 370 W 370	C 6,510			7,250
	Infrastructure Renewal Phase 1 (986080)			P 420	W 580 C 9,000			10,000
	Emergency Response Facilities Improvements					P 265	W 315	6,964
	Academic Building Renewal (980720)					P 530 W 530	C 13,120	14,180
	Mesa Road Realignment (966014)						P 240	7,060
	<b>CAMPUS TOTAL</b>		<b>405 [372]</b>	<b>12,621 [2,434]</b>	<b>36,250</b>	<b>38,225</b>	<b>32,125</b>	

**SANTA BARBARA CAMPUS  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**--- Snidecor Hall Office Wing  
Seismic Replacement ..... E \$ 405,000**

State funds are requested to equip the Snidecor Hall Office Wing Seismic Replacement project. Snidecor Hall received a seismic rating of “Poor” (DGS level V) in 1992. The theater wing was seismically corrected in 1998, but 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 22,602 asf building to address the expanded instruction and research needs of the Department of Dramatic Arts occasioned by enrollment growth.

**Education and  
Social Sciences Building..... E \$ 2,452,000  
E [\$220,000]G**

This project will construct a building of 120,880 asf with facilities for instruction, research and support, office space, clinic and demonstration, and film theater functions. The building will house the Graduate School of Education and academic units in the social sciences and humanities and will release existing academic space to meet instruction and research needs for other departments in the sciences, engineering, social sciences, and humanities.

**Arts Building Seismic  
Corrections and Renewal..... PWC \$ 20,000,000**

This project will provide seismic corrections for the Arts Building, upgrading its seismic rating from “Poor” (DGS Level V) to “Good,” and renovate the facility. The Arts Building was constructed in 1957, and its infrastructure systems, including electrical, plumbing, and HVAC, are in need of renewal. The project will also correct fire, life-safety and

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

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accessibility deficiencies and improve roofing, floors, ceiling, and window systems. The structural changes will result in the addition of 1,200 asf of new space, and the project will also renovate approximately 2,500 asf of existing space to meet the instruction and research needs of the Departments of Art Studio and History of Art and Architecture.

### **Electrical Infrastructure**

**Renewal Phase 2..... C      \$ 5,919,000**  
**WC      [~~\$ 2,586,000~~]**

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.

### **Davidson Library Addition**

**and Renewal ..... PWCE \$ 59,600,000**

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 services and collections of the central library to meet their academic needs. The current facility is crowded, cannot accommodate new technology, and lacks sufficient student instructional and study space. To meet demand, the campus has leased over 25,000 asf of space off-campus in addition to utilizing the Regional Libraries. This project will construct new library facilities of approximately 65,000 asf and renovate and seismically upgrade the oldest section of the existing Library.

### **Humanities, Sciences and Social**

**Sciences Renovations..... PWC \$ 7,250,000**

This project will renovate approximately 100,000 asf space released as a result of completion of the new Education and Social Sciences Building. It is part of the campus overall space plan to address critical space needs of departments and programs in the sciences, humanities, and social sciences. Space released 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

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

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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.

### **Infrastructure Renewal Phase 1.....PWC \$ 10,000,000**

This project will replace or upgrade major campus infrastructure systems, including gas, water, storm drain, and sewerage. Most of the campus infrastructure is older than forty years and has deteriorated to such a degree that failures are becoming common, particularly in lateral sewer lines. The project will replace main distribution systems, increasing their basic capacity to meet future demand. Lateral lines connecting the main systems to campus buildings will also be replaced.

### **Emergency Response**

#### **Facilities Improvements..... PWCE \$ 6,964,000**

This project will provide an addition of approximately 6,000 asf and renovate approximately 5,000 asf of existing space in Building 574. Building 574 was constructed in 1967 and currently houses campus communications, public safety, and emergency response operations. These units are highly overcrowded, some functions are 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.

### **Academic Building Renewal.....PWC \$ 14,180,000**

This project will modernize the Music Building which was completed in 1954 and is one of the oldest buildings on the campus. The Music Building contains 55,747 asf (78,476 OGSF). The building houses all of the teaching, research and administrative space of the Department of Music and the Arts and Music Library. While the building has been maintained its infrastructure, ceilings, floors and finishes have never been modernized. The project will also renovate portions of the



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

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building to meet the current needs of the academic programs occupying the space.

**Mesa Road Realignment.....PWC \$ 7,060,000**

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 Mesa Road rather than El Colegio. The east-west circulation route 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, approximately 100,000 asf of instructional and research space is contained in a combination of World War II barracks and temporary structures that are overdue for 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. 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 (continued)**

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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 \$900,000. 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 in the process of completing a new Campus Housing Study that will identify areas on existing campus land where new student, faculty, and staff housing can be constructed. 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 working drawings, 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. A number of projects to renew and expand the campus infrastructure systems are underway or planned in the five-year program. Also under study are the campus storm drain system, gas distribution, water, plumbing, and irrigation systems.

**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

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

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available, and in accordance with the LRDP, an area that formerly held 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 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 (continued)**

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Pedestrian access is well established within the campus and to it from other areas including Isla Vista. 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 2003-2004 (ACTUAL)	13,089 FTE undergraduates 1,340 graduate students
LIBRARY COLLECTION	1.4 million volumes
CAMPUS LAND AREA	2,000 acres
CAMPUS BUILDINGS	3.2 million assignable square feet

## **SANTA CRUZ CAMPUS 2005-10 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 2003-04 was 14,429 FTE students, including 1,340 graduate students. Current capital planning is based on enrollments increasing to 17,215 FTE by 2010-11.

The campus Space Plan and the 1988 LRDP reflect a planned 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, 32 academic fields lead to awards of MA, MS, MFA, DMA, or PhD 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.



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

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The campus is moving forward with a number of new initiatives, including programs in Digital Arts and the Center for Justice and Tolerance, and further expanding the School of Engineering that was established in July 1997. With this new School, the campus is developing 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 and information technology. Recent enrollment growth has meant that 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, 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 will be needed to build upon that initial effort and implement high-speed network capabilities.

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

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- **Circulation infrastructure:** The LRDP and subsequent planning efforts have made clear that the development of an adequate 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.

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

SANTA CRUZ CAMPUS

Univ. Prior. No.	PROJECT NAME	PREFUNDED	PROPOSED 2005-06	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
				2006-07	2007-08	2008-09	2009-10	
		(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
---	Humanities and Social Sciences Facility (971030)	P 1,479 W 1,146 C 24,680	E 1,075					28,380
3	McHenry Addition and Renovation Project (970948)	P 3,602 W 1,461	C 33,782	W 1,669 C 4,711	E 1,533 C 32,136	E 312		79,206
9	Alterations for Engineering Phase 3 (973040)	P 190 W 199	C 4,161					4,550
12	Digital Arts Facility (970450)	P 1,330	W 888	C 18,473	E 1,008			21,699
18	Infrastructure Improvements Phase 1 (970110)		P 777	W 346 C 6,980				8,103
	Biomedical Sciences Facility			P 3,560	W 2,640 C 61,800			70,000
	Infrastructure Improvements Phase 2			P 500	W 420	C 5,700	C 2,400	9,020
	Silicon Valley Center (973000)				P 255	W 670	C 1,000	20,400
	Social Sciences Facility					P 2,090	W 1,370	35,800
	Environmental Health and Safety Facility						P 640	9,875
	<b>CAMPUS TOTAL</b>		<b>40,683</b>	<b>36,239</b>	<b>99,792</b>	<b>8,772</b>	<b>5,410</b>	

**SANTA CRUZ CAMPUS  
2005-10 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**--- Humanities and Social Sciences Facility ..... E \$ 1,075,000**

State Funds are requested for equipment for the Humanities and Social Sciences Facility. 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 50,611 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

**3. McHenry Addition and Renovation  
Project..... WCE \$ 74,143,000**

State funds are requested to construct the McHenry Addition and Renovation Project. This project will increase space for the Library, 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.

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

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

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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.

**9. Alterations for Engineering Phase 3 ..... C \$ 4,161,000**

State funds are requested to construct 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.

**12. Digital Arts Facility .....WCE \$ 20,369,000**

State funds are requested to prepare working drawings 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. The 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.

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

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### **18. Infrastructure Improvements**

**Phase 1 .....PWC \$ 8,103,000**

State Funds are requested to prepare preliminary plans for the Infrastructure Improvements Phase 1 project. 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. Phase 1 will address the most immediate safety concerns, improve the reliability of distribution systems, and provide additional capacity for selected systems by improving domestic/fire protection water, stormwater drainage, and campus core cooling water systems. Electricity, natural gas, heating water, sewer, and communications systems and additional storm water drainage and cooling water systems will be improved in future phases of this multiphased program.

**Biomedical Sciences Facility..... PWCE \$ 70,000,000**

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 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 and Biochemistry, Environmental Toxicology, and Biomolecular Engineering.

### **Infrastructure Improvements**

**Phase 2..... PWC \$ 9,020,000**

Infrastructure Improvements Phase 2 will provide continued improvements to stormwater drainage, core heating water, core cooling water, electricity, and natural gas systems. Most of the infrastructure on the Santa Cruz campus is nearly 40 years old and is in need of

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

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renewal and expansion, particularly with the major increase in campus population and development resulting from enrollment growth. The planned improvements will address health and safety concerns, improve the reliability of distribution systems, and provide additional capacity for currently planned buildings.

### **Silicon Valley Center..... PWCE \$ 20,400,000**

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 \$ 35,800,000**

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 \$ 9,875,000**

Existing campus facilities for handling hazardous wastes are inadequate, do not meet current health and safety codes, and cannot

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

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accommodate workload increases associated with projected growth. Hazardous and radioactive waste handling 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 increased 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 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

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

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student and faculty academic programs, a University guest 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 match 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 has continued to be used for academic programs on a temporary basis to relieve ongoing campus space shortages. Space will continue to be leased off-campus for administrative units until funding is available to construct a new building or purchase off-campus facilities.

**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. This includes a campus event center seating 3,000 to 5,000 people, expansion and renovation of the Cowell Health Center, an outdoor event/soccer stadium and sports field, and new student union facilities.

**Child Care:** Demand for child care on the campus greatly exceeds the available supply, primarily as a result of insufficient 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.

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

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

Construction of residence halls and apartments in the Colleges is planned 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 in other on- and off-campus housing.

Residence halls and apartments are planned for each new College, and infill housing has recently been completed 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. The recent purchase of off-campus housing units and a series of future projects on campus inclusion-area land are expected to add more than 300 housing units for faculty and staff.

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

The campus is nearly 40 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 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	506,127 assignable square feet

## **DIVISION OF AGRICULTURE AND NATURAL RESOURCES 2005-2010 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 two principal components: the Agricultural Experiment Station and Cooperative Extension.

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.

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 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

## DIVISION OF AGRICULTURE AND NATURAL RESOURCES INTRODUCTION (continued)

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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.



2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

DIVISION OF AGRICULTURE AND NATURAL RESOURCES

Univ. Prior. No.	PROJECT NAME	PREFUNDED (000s)	PROPOSED 2005-06 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
				2006-07 (000s)	2007-08 (000s)	2008-09 (000s)	2009-10 (000s)	
19	Lindcove REC Laboratory Facility (L931790)		P 50 W 60 C 920					1,030
	Kearney REC Pressure Irrigation System			P 35 W 50 C 865				950
	Hopland REC Field Laboratory and Educational Center				P 60 W 90 C 1,410			1,560
	<b>TOTAL</b>		<b>1,030</b>	<b>950</b>	<b>1,560</b>			

**DIVISION OF AGRICULTURE AND NATURAL RESOURCES  
2005-2010 STATE FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**19. 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 \$ 950,000**

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 \$ 1,560,000**

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 its 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 provide open multi-purpose and workroom space for dry-lab activities, seminars, and community based educational functions.

## 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 from years of use in harsh environments, of a design that no longer supports contemporary research needs, and 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 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 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

## **DIVISION OF AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS (continued)**

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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 the educational programs that are an integral part of ANR's mission.

# **UNIVERSITYWIDE**

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## Capital Improvement Program

2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT PROGRAM

CCCI 4328  
EPI 2649

UNIVERSITYWIDE

Univ. Prior. No.	PROJECT NAME	PREFUNDED  (000s)	PROPOSED 2005-06  (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST  (000s)
				2006-07  (000s)	2007-08  (000s)	2008-09  (000s)	2009-10  (000s)	
	Inflation Adjustments			10,000	20,000	30,000	40,000	
	TOTAL		————	————	————	————	————	
				10,000	20,000	30,000	40,000	

**UNIVERSITYWIDE  
2005-2010 STATE-FUNDED CAPITAL IMPROVEMENT  
PROGRAM**

**Inflation Adjustments**

Project budget data presented in the University's five-year capital outlay program are normalized to California Construction Cost Index (CCCI) 4328 and Equipment Price Index (EPI) 2649, the State's approved cost indices for the 2005-06 budget.

The reserve defined in this funds item will be used for inflation adjustment in subsequent annual cycles of the capital program.