CALIFORNIA STATE UNIVERSITY, LONG BEACH

CAMPUS MASTER PLAN

REVISION MAY 2008

Table of Contents

Campus Master Plan
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Introduction

A

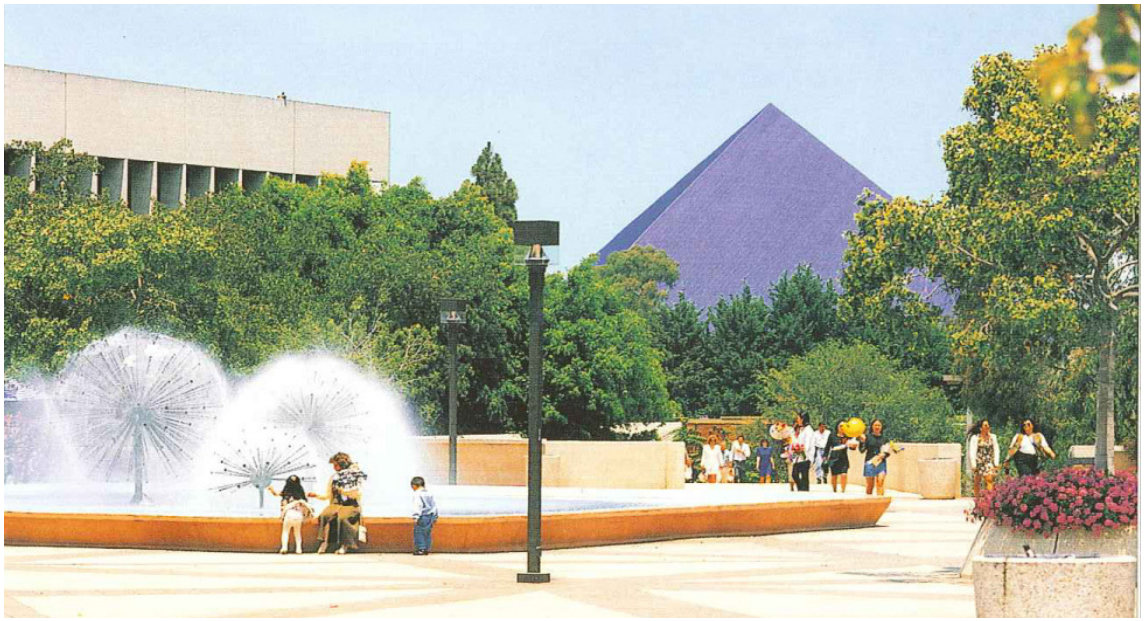
Purpose of the Master Plan
Strategic Priorities
Mission
Goal
Vision & Values
History of CSULB
Site and Architectural Characteristics
Architectural Guidelines
Campus Open Space

Introduction

With 322 acres, California State University, Long Beach (CSULB) is one of the larger urban campuses in the California State University (CSU) system. As of fall 2006, CSULB recorded the second highest enrollment in the CSU system.

CSULB has been ranked one of the top three public masters universities in the west by U.S. News and World Report's "America's Best Colleges Guide", for 2005, 2006 and 2007. Included among the 63 western master's universities ranked by the magazine in its top tier, CSULB is rated among the top 25 percent of 123 public and private universities in its category in the region. CSULB also ranked among the "Best in the West" by The Princeton Review in its Best 361 Colleges – 2007 Edition. It is one of west coast's top university master's institutions in student body diversity and home to the largest publicly funded art school west of the Mississippi. Ranked as the No. 3 best value public college in the nation by The Princeton Review, the campus is featured in the "Top 10 Best Value Public Colleges" list in the 2007 edition of its book America's Best Value Colleges.

CSULB will be one of the first campuses in the California State University system to offer the independent doctorate of education degree. Until Governor Schwarzenegger signed SB 724 in September 2006, state universities were only able to offer joint doctoral degrees in cooperation with private universities or the University of California. CSULB's independent doctoral program will begin in fall 2007.



Brotman Hall and Plaza with Pyramid beyond.

Purpose of the Master Plan

CSULB will grow to share in the need to accommodate the demand for higher education by students in California. Additionally, outdated, inefficient and obsolete facilities will need to be improved and replaced to meet the Strategic Plan. The Campus Master Plan constitutes the next step in the strategic planning effort.

The campus Master Plan's purpose is to further the University's mission and to document the vision for the physical environment. This Campus Master Plan document provides a framework for land use, open space, development and circulation. Within this framework, the University will prepare and update capital outlay improvement and development plans for specific identified projects.

The Campus Master Plan will guide the development of CSULB in the coming years. Decisions regarding the allocation of resources will be informed by this document and the strategic planning that has gone into its development. The Campus Master Plan is a realistic and feasible plan for the University based on the long standing planning that has formed the campus character and physical environment. It shows the implementation and logical progression of the evolution of the University in the 21st century.

Campus Open Space with Helen Borcher Peach tree.

Strategic Priorities

Student Success: CSULB's core purpose is "To Graduate Students with Highly Valued Degrees." The campus works toward continuous improvement in the quality of the student experience and offers opportunities for student engagement that foster learning in and out of the classroom. The campus encourages "Beach Pride" among students, staff, faculty and alumni. By 2008, CSULB aims to raise already-improving graduation rates to a leading position among comparable universities in California and in the nation.

Academic Quality: While excellence in teaching is the core of the campus mission, excellence in research and creative activities strengthens academic programs, lead to new areas of disciplinary and interdisciplinary focus, and add value to CSULB degrees. CSULB uses evidence about student learning to continuously improve academic curricula and pedagogies. The campus emphasizes student engagement through undergraduate and graduate student research, artistic and creative expression, academic internships, service learning, and international opportunities. In a move to further strengthen quality, CSULB aims to expand external support for faculty scholarship and creative activity, student research, and study abroad opportunities.

Service Excellence: CSULB seeks to deliver "Excellence Every Day" in services through skillful deployment of technology and through the concerted efforts of staff. CSULB aims to continue leading among CSU campuses in the quality of services delivered and in the implementation and effective use of the Common Management System.

Campus Life and Environment: CSULB's distinctly beautiful campus creates an excellent environment for student learning that is admired by visitors and is a source of pride for those who work at the University. Generations of campus leaders have wisely maintained this beauty. The campus recently undertook a "Master Planning" process to determine future growth for the campus. As this Master Plan is implemented in the coming decade, CSULB aims to enhance its distinct beauty, update and expand the existing infrastructure, and preserve the quality of the physical environment.

Mission

The mission of all degree programs is to provide each student the skills necessary to pursue knowledge and to integrate information from various sources, and also to provide depth in at least one are of specialization.

Goal

The fundamental goal of the University is to prepare students to function effectively in a culturally diverse society by developing an understanding of our diverse heritage, including the essential contributions of women and ethnic minorities.

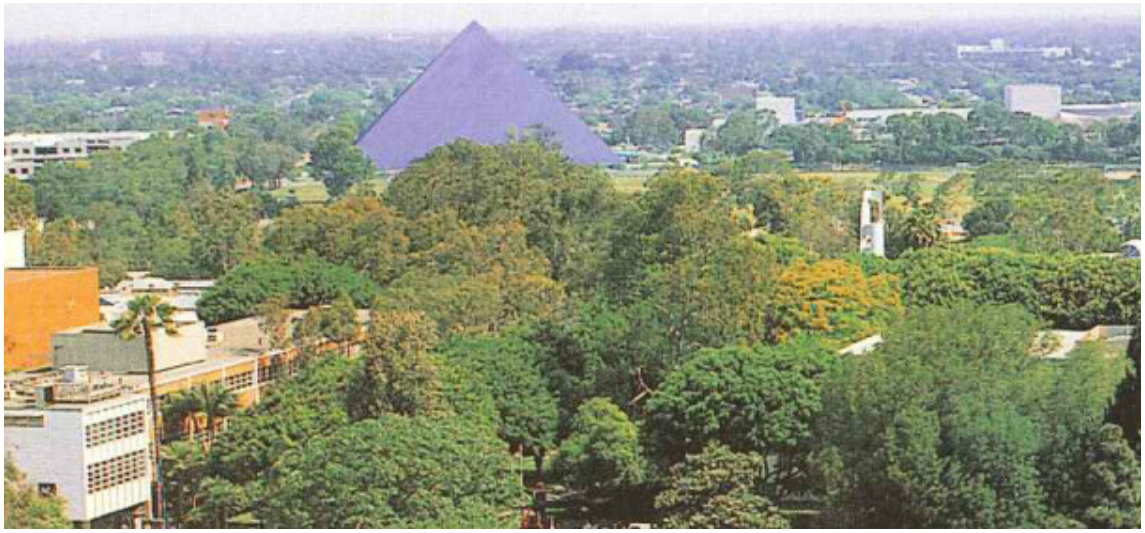
Vision & Values

CSULB is prepared to launch a major comprehensive campaign under leadership from our new president.

CSULB is well-positioned to be very successful with a major campaign because of our recognized achievement, our large alumni base, our excellent relationships with donors, and our compelling vision for the future.

CSULB is the third highest ranked public Master's granting university in the West in America's Best Colleges 2007. This continuing recognition is the result of sustained efforts on the part of the university community to improve retention and graduation rates, the quality of the student experience, support for faculty, our technological infrastructure and our physical campus.

CSULB now aims to achieve still greater distinction with four strategic priorities: student success, academic quality, service excellence, and campus life and environment.



Aerial view of campus looking toward the north campus and the Pyramid. The academic campus is in the foreground.

History of CSULB

Established in 1949 by California Governor Earl Warren to serve the rapidly expanding post World War II population of Orange and Southern Los Angeles counties, CSULB has grown to be one of the state's largest and most well respected universities. At its inception, the institution was known as Los Angeles-Orange County State College. It consisted of 25 courses taught by 13 faculty members in two apartment buildings on Anaheim Road in Long Beach. In 1950, the citizens of Long Beach voted overwhelmingly to purchase 322 acres for under $1,000,000 for use by the State of California as a permanent campus.

By 1960, the student body had grown to more than 10,000 students and by 1966 to 20,000 students. In 1962, Long Beach State College changed its name to California State College at Long Beach in an effort to unify with the state system and enhance its prestige.

The school acquired university status in 1972 along with 12 other state college campuses. The promotion was decided by the Board of Trustees of the California State University system according to total enrollment, size of graduate programs, complexity and diversity of majors and number of doctorates held by faculty at each college.

Earl Burns Miller Garden

Site and Architectural Characteristics

Located 3 miles from the Pacific Ocean, the CSULB campus spans 322 acres with 84 buildings. CSULB is bounded by 7th Street to the south, Atherton Street to the north, Bellflower Boulevard to the west, and Palo Verde Avenue to the east.

The topography of the site is relatively flat, with the southern area of the campus rising approximately 80 feet from north to south. Bouton Creek, a drainage easement that runs diagonally through the northern campus, although some of the easement is covered, has been a significant form giving feature to the physical plan.

The architecture of the campus is mostly of the International style, placing emphasis on the open landscaped areas throughout the campus and creating a naturalistic, park-like setting. The integration of landscaping and architecture is apparent at the somewhat formal quadrangle of the south campus, and at the promenade traversing the campus from west to east. In contrast are rolling hills of grass with thoughtfully located trees of a variety of species. Tree canopies have been utilized to define smaller open spaces in a manner appropriate to the mild coastal climate. At the Carpenter Performing Arts Center, a dense grove of ficus trees is planted in such a way that it forms a continuation of the pillar-supported canopy at the theater's entrance. Some of the university's student services functions that can have long lines of students at certain times during the academic year are located in the open courtyard of

Killingsworth Plaza

E. James Brotman Hall, which is "roofed" by a similar jungle-like canopy. The Psychology building is also notable for its soaring, courtyard planted with tall Eucalyptus trees.

The campus buildings are primarily comprised of a brick, glass and concrete palette. Modernist proportioning, flat roofs, punched windows and the consistent use of peach colored brick have tied the campus together over the course of decades of development with a vernacular that gives CSULB its own strong physical identity. The dramatic exception is the blue Walter Pyramid. The arena provides a singular stark contrast on campus that serves as an icon for the university. Further exceptions to the material palette and massing would serve only to dilute the "campus in a park" academic vernacular.

In 1965, CSCLB hosted the first International Sculpture Symposium to be held in the United States and the first at a college or university. Six sculptors from around the world and two from the United States created many of the monumental sculptures seen today on the campus. The event received national media attention from newspapers around the country including the New York Times, Los Angeles Times Magazine, Art in America and a six-page color spread in Fortune Magazine. A number of those exterior public art installations remain throughout the campus.

"It is always gratifying to me to be in a space which possesses a beauty of balance and proportion and makes my spirits soar ... what better goal can there be for an architect than to create conditions such as these."
– Edward A. Killingsworth, FAIA, CSULB Master Plan Architect 1962-2004

Architectural Guidelines

Building Siting

Campus buildings are primarily sited as buildings in a park. As such, access to the buildings will be carefully coordinated with the open spaces of the campus, and pedestrian circulation patterns. Entrances will be broad and welcoming, opening off of and integrating with the campus open spaces. The primary building frontage and access will be oriented to the central campus, although secondary entrances from parking may be appropriate.

Outdoor Transition

Roof overhangs, trellises, courtyards and other means of transitioning outdoor to interior spaces are encouraged. Opportunities for informal learning will be provided whenever possible. Outdoor areas should include usable space designed to be more than places to walk through to get to the building. Outdoor seating for individuals and small groups should be included in both sunny and shady locations since the coastal location of the campus results in many cool days. Paving materials, colors and patterns within these areas are important for adding a sense of place and scale. Materials should coordinate with other paving on campus but may be designed to specifically compliment and coordinate with the building and the adjacent campus pathways.

Building Form

The building forms at CSULB are primarily rectilinear. The Pyramid is a unique focal point on campus. All future buildings will continue the tradition of the brick modernist simple and elegant lines that define the architectural vocabulary of the campus. Attention to detailing is imperative to the success of building design within this vernacular. The California climate and building orientation will influence the design of the different facades. The campus topography will be embraced by the building rather than resisted with retaining walls.

Materials

The combination of brick with white cementicious materials will be the primary vernacular of CSULB. Brick vertical facades utilizing the designated campus peach brick color are encouraged. Full size brick units should be used whenever possible. Thin brick should be considered only in locations where it will not give an appearance of being an applied finish, or a "wallcovering" but rather will be an integral element of the structure. Vertical planes of brick will be incorporated in locations and proportion significant enough to integrate the design to the campus vernacular.

White concrete will be a secondary material and may be utilized in various configurations and geometries. Exterior materials will be durable, particularly in regards to the marine atmosphere.

Roofs

Roof lines will appear flat and roof overhangs to shield sun and rain are appropriate. Mechanical and building system equipment will be ground level mounted and shielded whenever possible. Where roof mounted equipment is unavoidable it will be concealed by parapets and line of sight. If mechanical equipment screens are necessary to complete the screening of equipment, they will be designed to integrate with the building. Some roofs may be visible from upper floors of neighboring buildings. All vantage points will be considered when designing the roof.

Windows

Window opening configurations and scale are important elements for the rectilinear building forms of CSULB. Individually set windows and storefront installations are acceptable systems. Glass curtain wall systems should only be considered if used in a limited and purposeful manner. Glass surfaces will add depth, shadow and dimension to the building façade. Future flexibilty of interspaces will be considered when the façade and window penetrations are being designed.

Glazing color will be bronze tinted, and window frames and storefronts will be dark bronze anodized or a finish complimentary to dark bronze.

Service

Service areas, including access for campus vehicles, trash collection and pickup, and building deliveries will be located in a manner to minimize pedestrian and vehicular paths from conflicting. Pedestrians will always have the priority in the circulation planning of buildings. Service access and areas will be shielded from view and will be located adjacent to parking and driveways.

Prioritizing the pedestrian right of ways over those of service vehicles should be the priority. Access for service activities need not be compromised. Planning for pedestrian safety and not disrupting the pedestrians' paths and activities is of primary importance, and if consideration is specifically given to how service will be delivered to the proposed buildings the two should be able to coexist without conflict.

Accessibililty

Planning and design of buildings, landscape areas, sidewalks and parking facilities shall all equal or exceed the requirements of Title 24.

E.James Brotman Hall Plaza

Pedestrian Mall

Campus Open Space

The "spaces between" that knit together the CSULB campus are critical to its character and quality. The open spaces include lawns, pedestrian malls and plazas, active and passive spaces, shady landscaped areas and smaller intimate "yards".

Open space connects the north and south campus areas. The sports and athletics fields, although programmed academic space, contribute to the open space network through the expanses of lawn and landscape. The quiet and peaceful environment of the open spaces contrasts with the heavy traffic and fast paced urban Long Beach community that surrounds the University.

The interior orientation of the academic campus toward the open space is a significant form and character giving attribute that will be retained and enhanced by the Campus Master Plan.

The Helen Borcher Peach Tree is the campus tree. Its inclusion in the landscape shall be at locations where the seasonally colorful flowering tree is used to accentuate a focal point.

Existing Conditions - 2007

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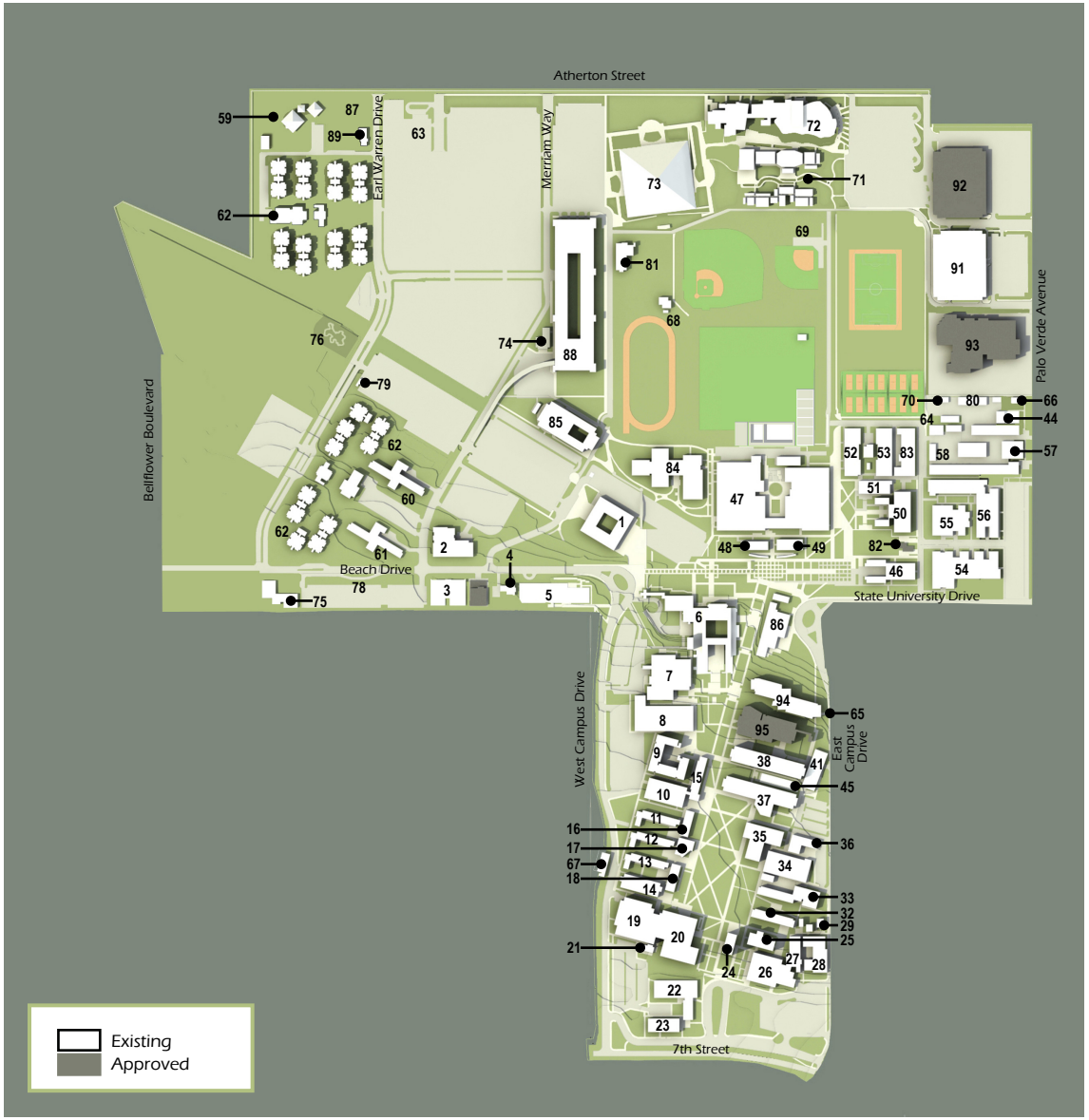
Existing Master Plan
Existing Master Plan Building List
Existing Master Plan - Aerial
Facility Age
Existing Classrooms
Existing Facility
Existing Parking
Existing Transportation



EXISTING MASTER PLAN
PHYSICAL CAMPUS DIAGRAM

See following page for building names.

EXISTING MASTER PLAN

The first Campus Master Plan for CSULB was adopted by the Board of Trustees of the California State University in January 1963. Since then, revisions to the Master Plan have been adopted by the Trustees as campus planning progressed and facilities were added.

The existing Master Plan represents existing buildings, circulation routes, recreation and wellness facilities, sports fields, parking and open spaces that have been approved to date. Future facilities that have been approved by the Board of Trustees and though the California Environmental Quality Act (CEQA) process are also shown on the plan.

Master Plan Approved by the Board of Trustees: January 1963, February 1963

Master Plan Revision Approved by the Board of Trustees: September 1965, June 1966, November 1970, January 1972, , May 1972, March 1974, July 1976, September 1976, November 1978, March 1982, January 1984, November 1984, July 1986, September 1988, November 1990, September 1991, September 1994, November 1994, July 2003

EXISTING MASTER PLAN BUILDING LIST

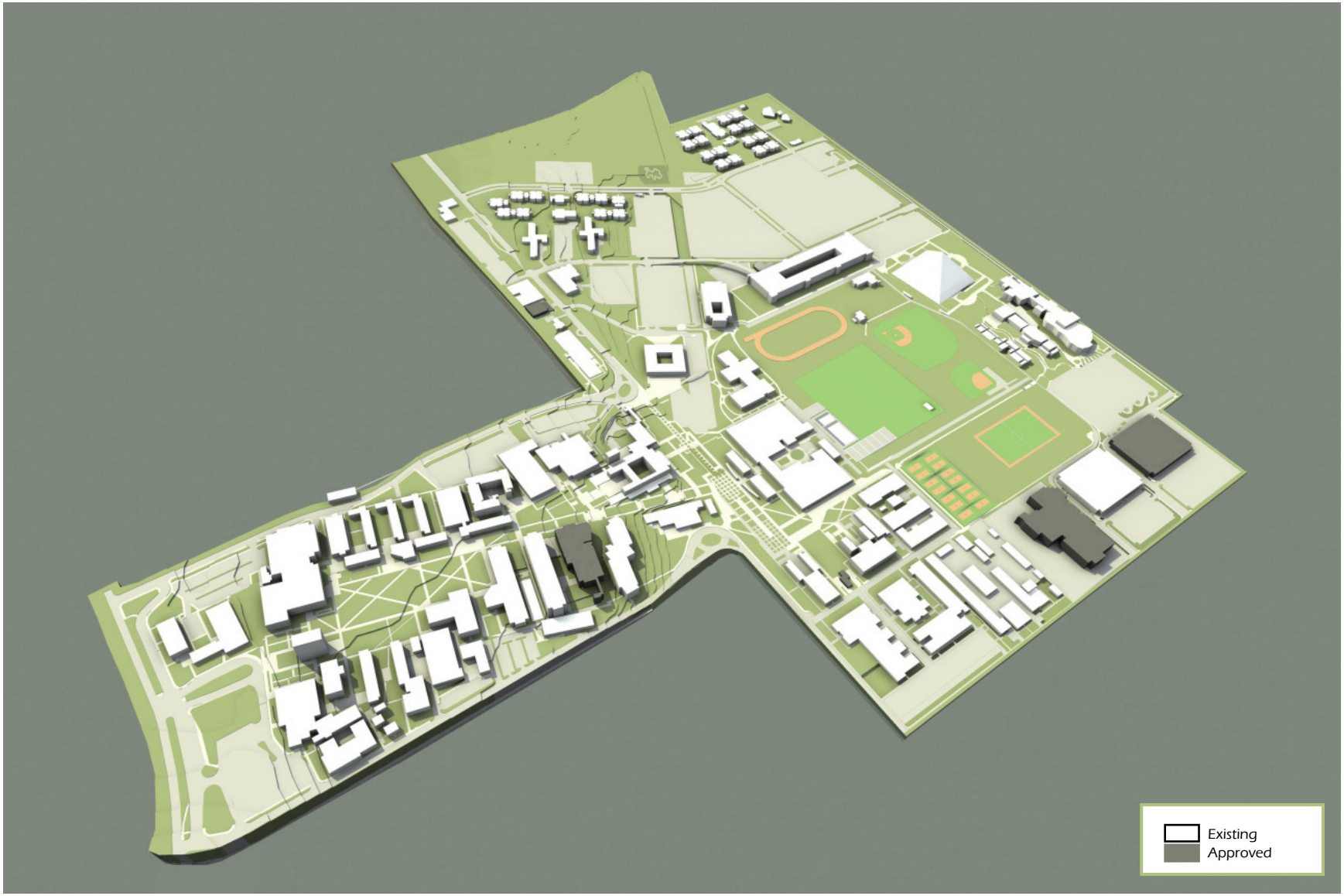
NO.	BUILDING NAME
1	E. James Brotman Hall
2	Student Health Services
3	Nursing
4	Soroptimist House
5	Family and Consumer Sciences
6	University Student Union
7	Cafeteria
8	Bookstore
9	Psychology
10	Liberal Arts 5
11	Liberal Arts 4
12	Liberal Arts 3
13	Liberal Arts 2
14	Liberal Arts 1
15	Faculty Office 3
16	Faculty Office 2
17	Lecture Hall 150-151
18	KKJZ
19	Library
20	Academic Sevices
21	Multi-Media Center
22	Education 1
23	Education 2
24	McIntosh Humanities Office Building
25	Language Arts Building
26	Studio Theater
27	University Threatre
28	University Telecommunications Center
29	Art Annex
32	Fine Arts 1
33	Fine Arts 2
34	Fine Arts 3
35	Fine Arts 4

NO.	BUILDING NAME
36	Faculty Office 4
37	Peterson Hall 1
38	Peterson Hall 2
39	Peterson Hall 3
40	Science Lecture Halls
41	Microbiology
42	Animal House
43	Greenhouse 1 and 2
44	Electrical Substation (North)
45	Faculty Office 5
46	Social Sciences/Public Affairs
47	University Gymnasiums
48	Health and Human Services Classrooms
49	Health and Human Services Offices
50	Vivian Engineering Center
51	Engineering 2
52	Engineering 3
53	Engineering 4
54	Design
55	Human Services Design
56	Engineering Techonology
57	Facilities Management
58	Corporation Yard
59	Patterson Child Development Center
60	Los Alamitos Hall
61	Los Cerritos Hall
62	Residence Halls and Commons
63	Recycling Center
64	Greenhouse 3
65	Electrical Substation (South)
66	Reprographics
67	Communications - Main Distribution Facility A
68	Restroom / Storage

NO.	BUILDING NAME
69	Softball Field Restrooms
70	Communications - Main Distribution Facility B
71	University Music Center
72	Carpenter Performing Arts Center & Dance Center
73	Mike and Arline Walter Pyramid
74	Parking / Transportation Sevices
75	International House
76	Earl Burns Miller Garden
78	Visitor Information Center
79	Communications - Main Distribution Facility C
80	University Police
81	Pyramid Annex
82	Outpost Food Services
83	Engineering / Computer Science
84	Steve and Nini Horn Center
85	College of Business
86	Central Plant
87	Campus Housing
88	Parking Structure No. 1
89	Housing & Residential Life
91	Parking Structure No. 2
92	*Parking Structure No. 3*
93	*Student Recreation & Wellness Center*
94	Molecular and Life Sciences Center
95	*Peterson Hall 3 Science Replacement Building*

Legend: Existing Facility / *Approved Facility*

See Previous Page for Building Locations



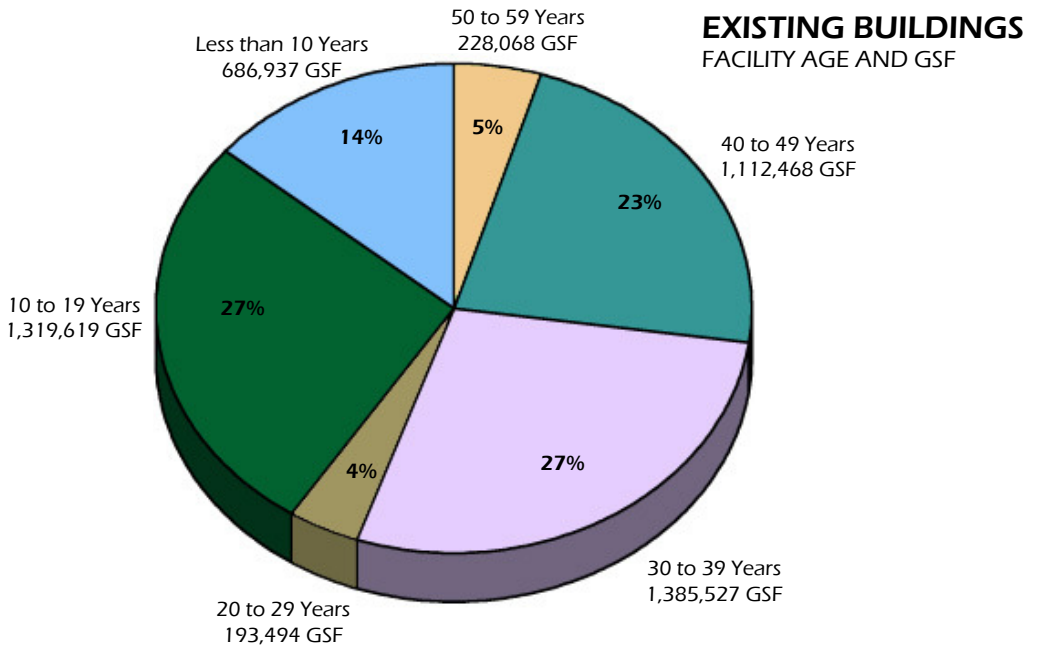
EXISTING MASTER PLAN CAMPUS

AERIAL VIEW

Facility Age

Many existing buildings on the CSULB campus are approaching or have passed their expected useful life cycle. Although some buildings have undergone renovation, a significant amount of square footage remains in the original condition, receiving only routine and limited improvements. Many of the older buildings were constructed of concrete, including interior corridor and partition walls. These buildings are inflexible, which makes renovation and reconfigurations impractical.

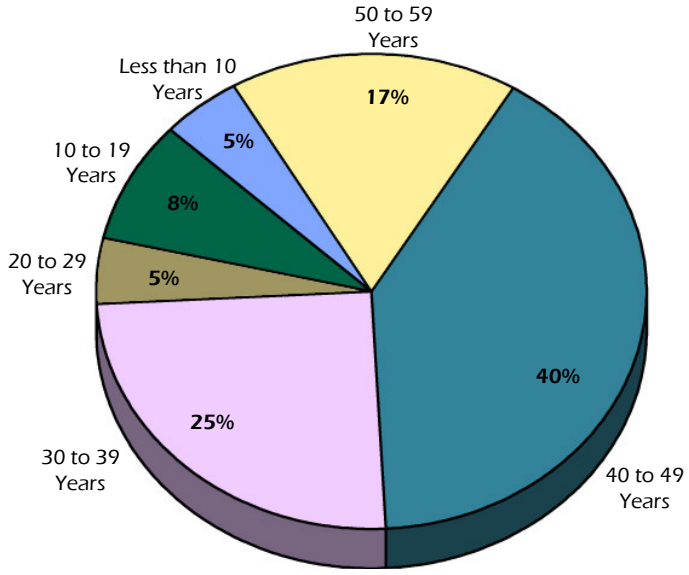
The adjacent chart indicates the age of the University facilities. Fifty-five percent of the space on campus was built prior to 1977. Five percent of the campus square footage is more than 50 years old. Fourteen percent of the campus space was constructed over the last ten years.



EXISTING CLASSROOMS

CLASSROOM AGE

	Lecture Classrooms	Lecture Stations	Teaching Labs	Teaching Lab Stations	Classrooms	Stations
50 to 59 Years	41	1,756	48	959	89	2,438
40 to 49 Years	101	4,368	94	2,004	195	6,150
30 to 39 Years	51	2,140	48	1,261	99	3,718
20 to 29 Years	5	164	28	733	33	490
10 to 19 Years	6	893	10	340	16	1,822
Less than 10 Years	0	0	22	472	22	472
TOTAL	**204**	**9,321**	**250**	**5,769**	**454**	**15,090**



The classrooms at CSULB reflect an even older building age distribution. Eighty-two percent of the classrooms are older than 30 years, and 57% of the classrooms on campus were constructed before 1967.

In addition to issues of maintenance, most of the classrooms on campus have not been renovated or altered to reflect changes in pedagogy, technology and modern day instructional conditions.

Existing Facilities

Existing Facilities

In 2007, CSULB has 4,920,963 gross square feet of academic and academic support facilities. That space is approximately grouped into categories for comparative purposes only.

Existing Student Housing and Parking

In 2007, CSULB has 18 two- and three-story buildings providing 1962 beds on campus. The existing housing services approximately 7% of the undergraduate FTE.

CSULB 13,429 parking spaces, of which 4,026 are in parking structures. The balance of existing parking is provided in surface lots.

EXISTING FACILITIES

Description	GSF	ASF
State		
Administrative	134,096	92,996
Academic	2,195,567	1,380,232
Corporation Yard	103,145	43,413
Cafeteria	39,500	31,103
Library	406,020	256,491
Other	74,081	28,862
Sub total	**2,952,409**	**1,833,097**
Non-State		
Student Union	229,696	95,026
Health Center	38,629	18,142
Dormitories	435,739	105,895
Parking Structures	1,244,980	991
Pyramid Annex	19,510	10,204
Sub total	**1,968,554**	**230,258**

Existing Parking

CSULB has 13,429 parking spaces of which 4,944 are in two parking structures. Campus parking for students, faculty, staff and visitors is distributed throughout the campus, with a majority of available parking located on the northern half. About 16% of the supply is allocated to faculty and staff members and 76% is allocated to general parking. Spaces designated for visitors, accessible parking, medical, resident parking and loading make up about 8% of the supply.

Parking on the surrounding public streets is patrolled and generally unavailable to CSULB parkers. The City of Long Beach has established time limits intended to eliminate student parking from all nearby streets except Bellflower Boulevard, Atherton Street, and Palo Verde Avenue.

The existing master plan includes plans for a third parking structure in the north end of parking lot 11, which will provide a total of 920 net new spaces in the lot. The university also runs a shuttle service on and in limited areas off campus as a means of alternate transportation.

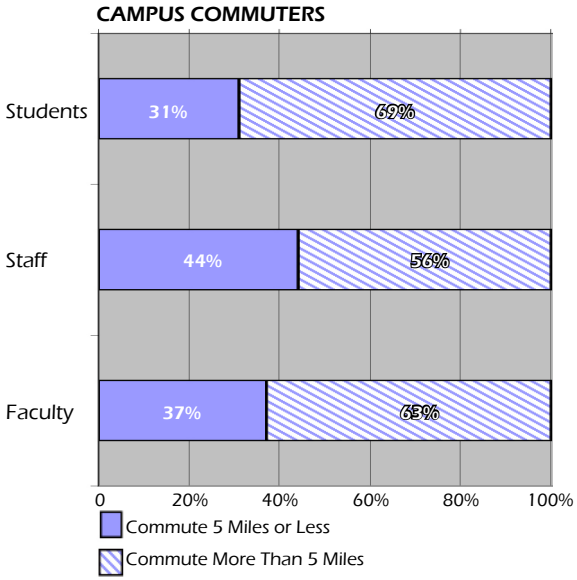
Parking Structure No. 1

Parking Structure No. 2

Existing Transportation

In 2006, Watry Design Group conducted a study to determine the commuting habits of California State University, Long Beach faculty, staff and students. The results indicate that 63% of faculty and 56% of staff travel farther than 5 miles to campus. It was also determined that of students, 69% travel more than 5 miles, and 64 percent drive further than 10 miles to campus.

While the campus is in Los Angeles County, a large percentage of faculty, staff and students live and commute from Orange County because of the proximity of Campus to the county line. The study indicates that of faculty and staff living in Orange County, 16.2% live within 5 miles of campus. Of faculty and staff living in Los Angeles County, 53.5% live within 5 miles of campus. 41% of Students living in both Orange and Los Angeles Counties commute 10 miles or less.



Transportation and Circulation

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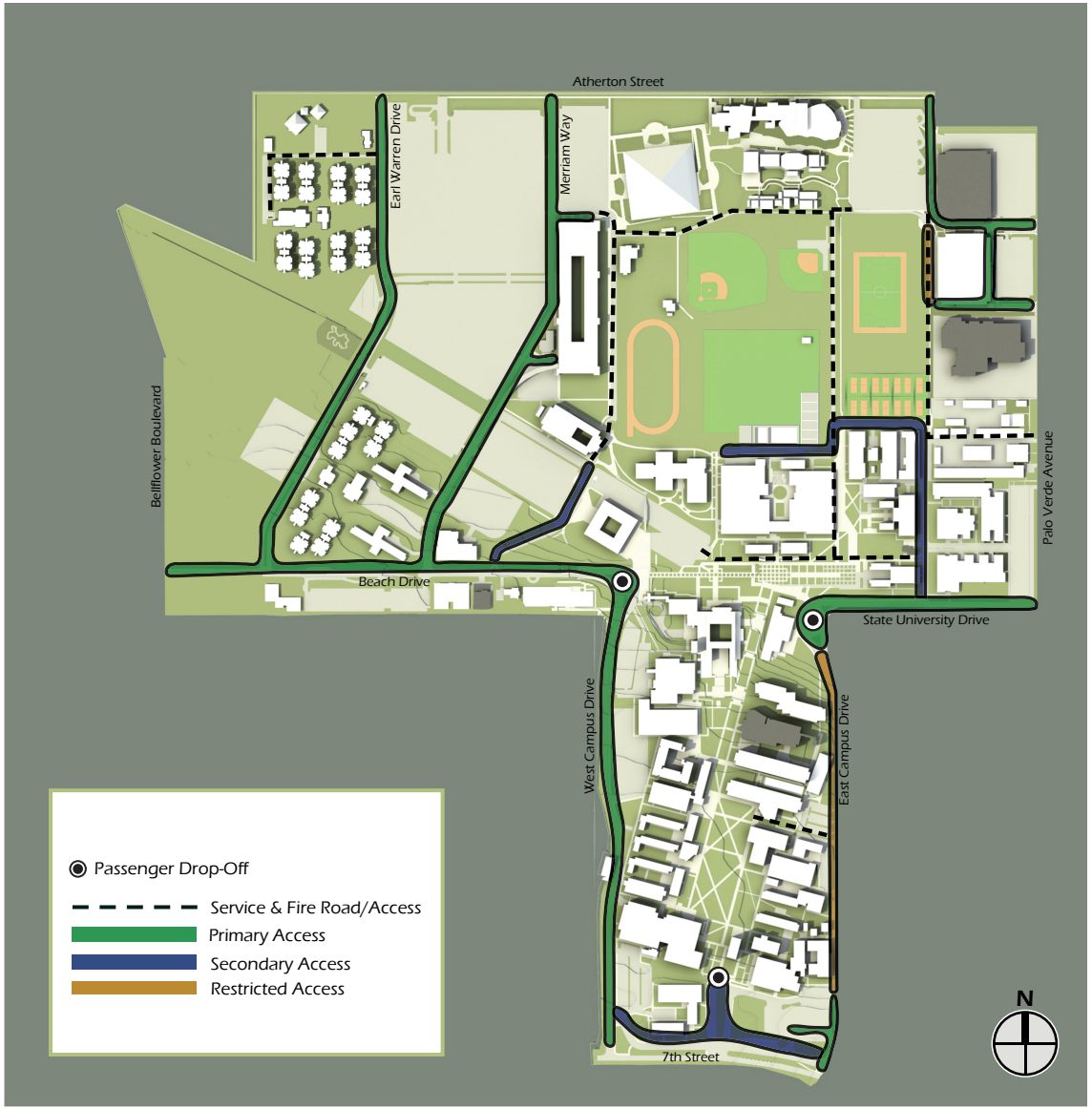
Vehicular Circulation
Pedestrian Primacy
Emergency Vehicle Access
Service Access
Public Bus Transportation
Campus Shuttle
Pedestrian Circulation
Universal Accessibility
Wayfinding



VEHICULAR FLOW

Vehicular Circulation

There are two primary vehicular entrances to the University, and seven secondary access points from public streets. The Beach Drive entrance from Bellflower Boulevard has a significant community presence, including a monument sign. The Visitor Information Center is also located on Beach Drive, where visitors may receive parking advice and day permits. The West Campus Drive entrance from Seventh Street is also prominent and has an electronic marquee with campus events.

Public vehicular circulation is primarily restricted to the perimeter areas of the CSULB campus. Earl Warren Drive and Merriam Way provide access through the campus from Beach Drive on the south to Atherton Street on the North. They are both west of the main academic areas of campus and provide access to parking and housing.

Secondary access roads provide direct routes to parking, as well as for service vehicles. Restricted access roads require card key or similar means of access and are for designated users only. Pedestrian Drop-Off areas allow vehicles to continue through the campus without entering major parking lots and structures.

Pedestrian Primacy

The campus core is designed as a pedestrian domain.

Most academic, academic support and housing facilities are clustered within a one half mile walking distance.

At conflict points with other modes of travel the pedestrian are given the right-of-way, especially at key crossing of heavily traveled streets. Visual Cues direct pedestrians toward the most desirable path.

Service vehicles use designated service routes.

Pedestrian and bicycle facilities will comply with ADA and Title 24 requirements.

Pedestrian path and stairs leading up to Maxson Plaza.

Pedestrian primacy within a Parkside Residence.

Emergency Vehicle Access

Emergency vehicles have access to the interior of campus by using restricted routes and service roads and paths. Planning and building design incorporate access for emergency vehicles as an integral part of the design. Dual use paths are paved to accentuate pedestrian primacy. In some areas, these paths are structural and dimensionally capable of supporting emergency apparatus.

Service Access

Service access throughout most of the campus follows the Primary, Secondary and Restricted road systems. In areas where those roads are not present, service vehicles can use the emergency routes.

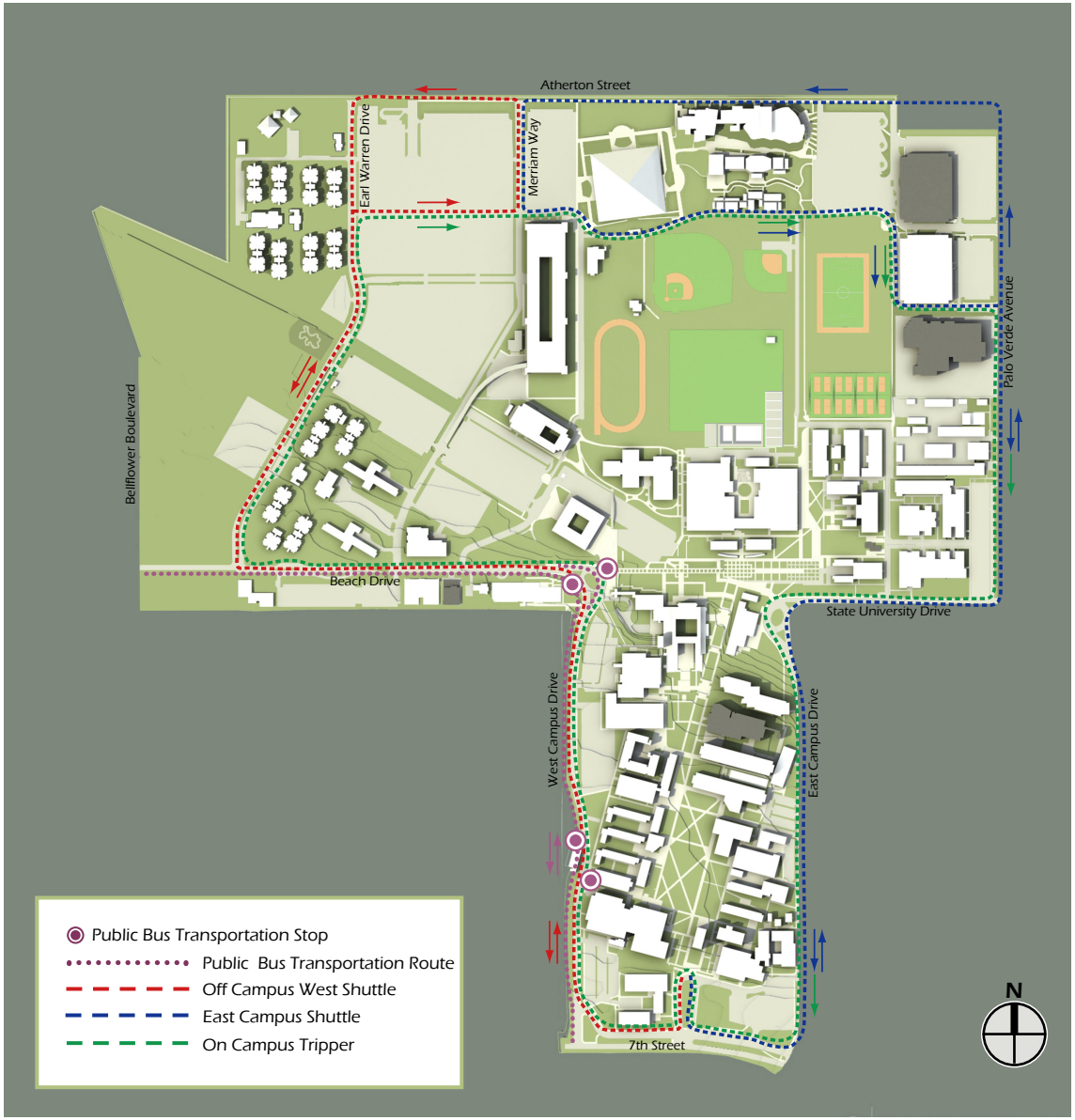
Public Bus Transportation

Public bus transportation, provided by Long Beach Transit, includes routes on the CSULB campus. Transit routes run along Seventh Street, West Campus Drive, Beach Drive, and Bellflower Boulevard, with a stop on West Campus Drive and at the West Turnaround.

Campus Shuttle

The Campus Connection is a shuttle program dedicated to providing an alternative transportation for the campus community. The campus has three shuttle routes. The cumulative routes serve the entire perimeter of campus and all major parking facilities. The Campus Connection also provides a ride to the campus for residence just west of CSULB. By providing shuttle access, campus commuters are encouraged to park only once when they arrive on campus and not move their car to another area of campus during the day, thus reducing on-campus traffic and parking space "hunting" that congests the parking lots and structures. The shuttle also provides safe passage for evening classes and events.

- **Off Campus West Shuttle** (2 shuttles)
  Mon. - Thu. 7 a.m. - 12 midnight; Fri. 7 a.m. - 5 p.m.
  Off Campus West Express (1 shuttle)
  Mon. Thu. 7:30 a.m. - 3 p.m.
- **East Campus Shuttle** (2 shuttles)
  Mon. Thu. 7a.m. - 12 midnight; Fri. 7 a.m. - 5 p.m.
- **On Campus Tripper** (1 shuttle)
  Mon. Thu. 7 a.m. - 7 p.m.; Fri. 7 a.m. - 5 p.m.

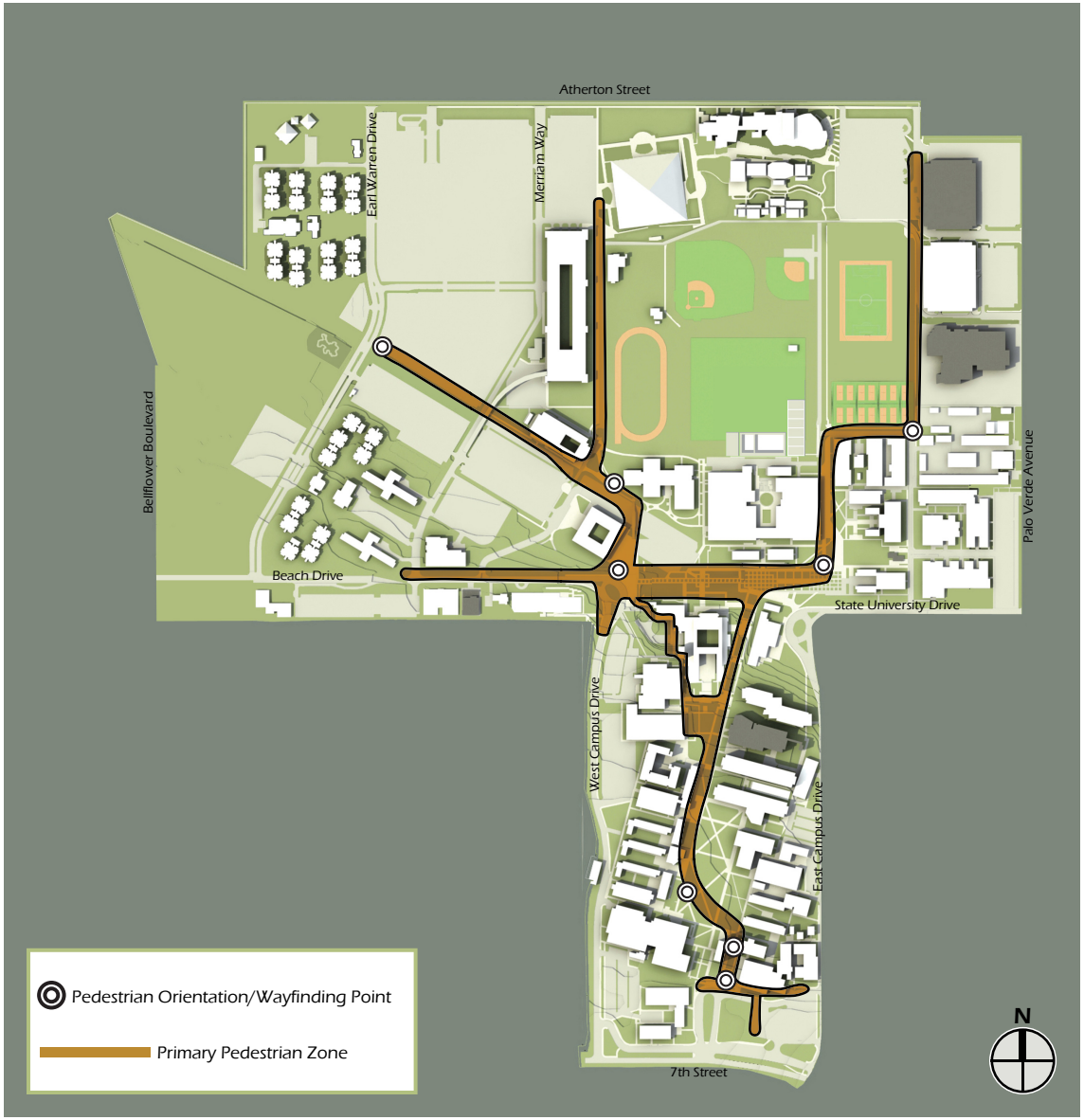


PUBLIC BUS TRANSPORTATION AND SHUTTLE ROUTES

Pedestrian Circulation

The "buildings in a park" campus configuration creates a pedestrian oriented environment with automobile and public transportation circulation routes remain outside the central campus and the major open spaces. Pedestrian circulation pathways often occur through open spaces where diagonal crossing of the landscape provides opportunity to experience open lawns and trees and to study converse in casual settings.

A north-south pedestrian mall is being implemented to complete a safe and inviting walking route from Parking Structures 2 and 3 to the central campus.



PEDESTRIAN FLOW

Universal Accessibility

CSULB is dedicated to providing accessibility to all members of the campus community. Disabled parking at structures and surface lots provides access to the campus core and to support facilities.

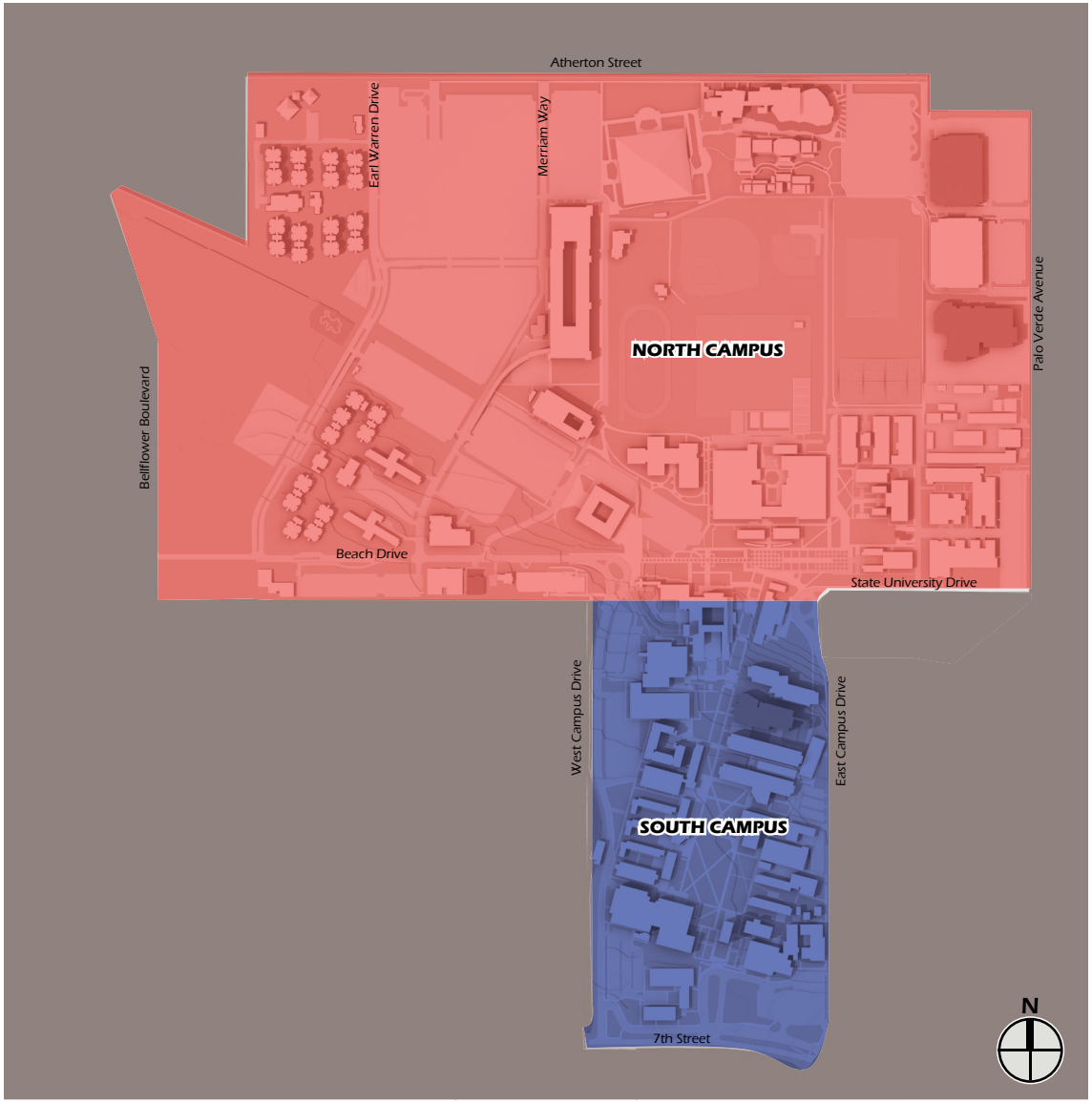
Ramping, when required, shall be designed as an integral element of the landscape and the building. Opportunities for developing flat seating areas at enlarged landings, planter walls along the side of ramps, and architecturally articulated ramps that give form to a building or open space edge are encouraged.

Wayfinding

The Campus is divided into two primary zones. A campus wide wayfinding system is keyed to these zones to assist pedestrians and visitors in navigating the campus.

Information pylons are located throughout the campus at pedestrian orientation points and pedestrian route intersections with campus map information.

The Visitor Information Center provides wayfinding information and the staff can answer visitors questions when they enter the campus on Beach Drive.



CSULB is divided into two primary zones to assist visitors in navigating the campus.

CAMPUS ZONE DIAGRAM

Proposed Master Plan

D

Master Plan Implementation
Proposed Master Plan
Proposed Master Plan Building List
Proposed Master Plan - Aerial
Proposed Facilities List
Housing Goals
Parking

Master Plan Implementation

This master plan is organized in two increments: The current approved master plan including minor amendments, and the proposed master plan.

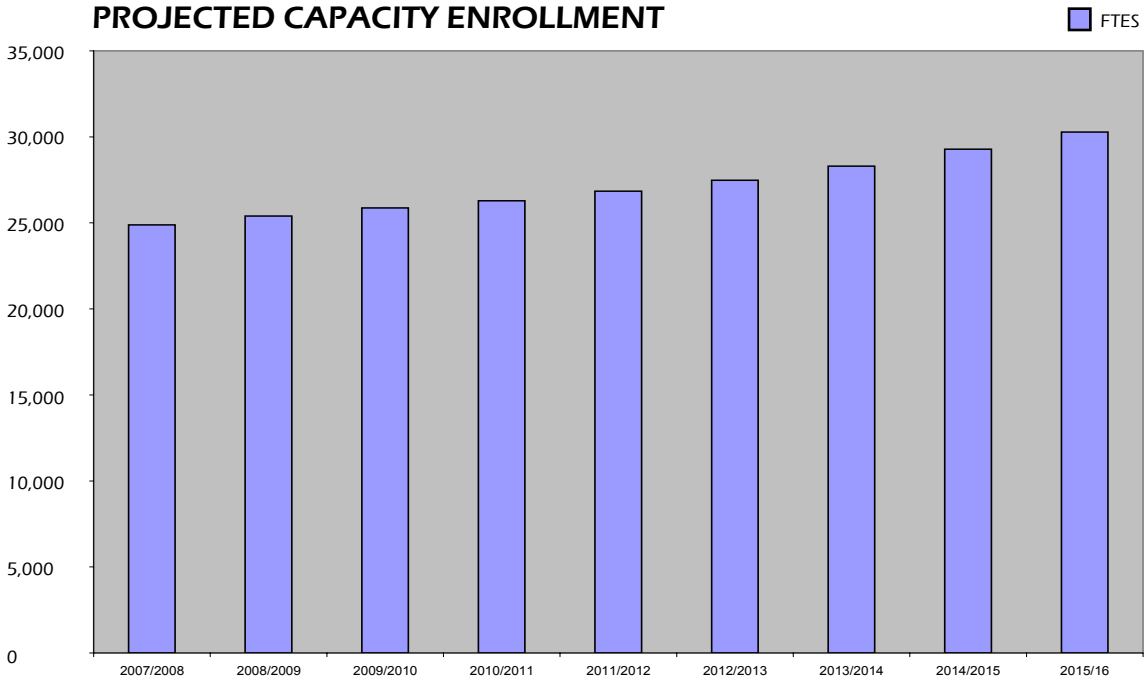
Current Approved Master Plan

The current Master Plan includes all elements that have been approved to date by the Board of Trustees and through the CEQA process.

Proposed Master Plan

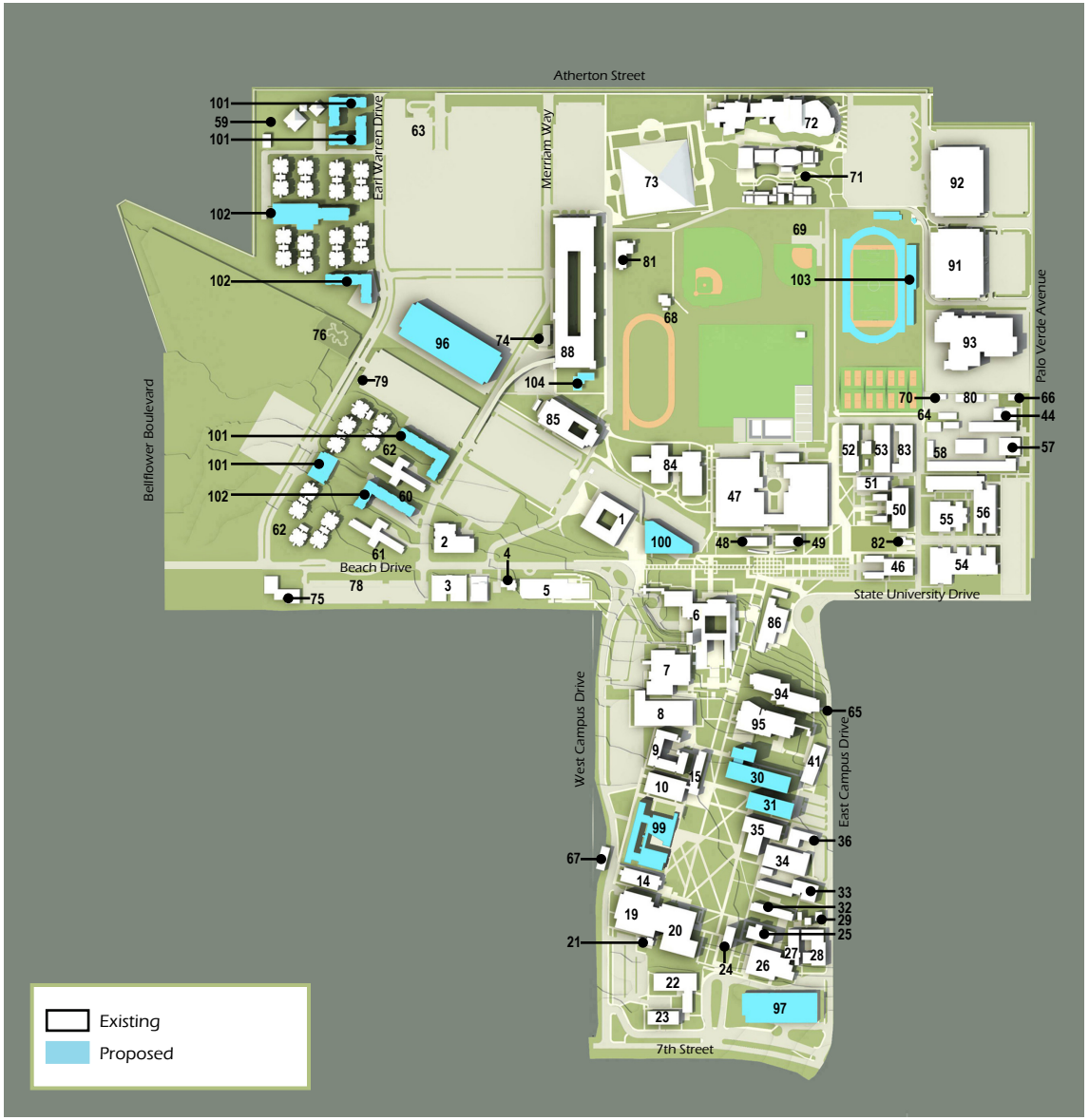
The Proposed Master Plan lays out the physical facilities to accommodate CSULB's strategic planning and Academic Plan. With enrollment growth anticipated to reach approximately 31,000 FTE, the Campus Master Plan indicates the required instructional, research, faculty office and administrative space, student services areas, student housing, sports and recreation parking and support facilities.

The approach of the Master Plan is to provide in-fill projects which will be constructed in the interior area of the campus, as well as reconstruction projects that will replace aged, obsolete, inefficient facilities. The replacement buildings have program areas required to support the Academic Plan that cannot be accommodated within the existing buildings. Reconstruction projects require the demolition of an existing building, the temporary relocation of the occupants and scheduled uses, and the reconstruction of the new facility on approximately the same site but with efficient land use. Areas identified for reconstruction are liberal arts area, and science area. These areas are discussed in more detail in subsequent sections of this document.



Enrollment

The current enrollment cap of 25,000 FTE was established in 1972.



PROPOSED MASTER PLAN CAMPUS
PHYSICAL CAMPUS DIAGRAM

See following page for bulding names

Proposed Plan

The Proposed Master Plan accommodates growth of the CSULB campus to 31,000 FTE students. Proposed facilities are indicated in blue and are listed on the following page.

PROPOSED BUILDING LIST

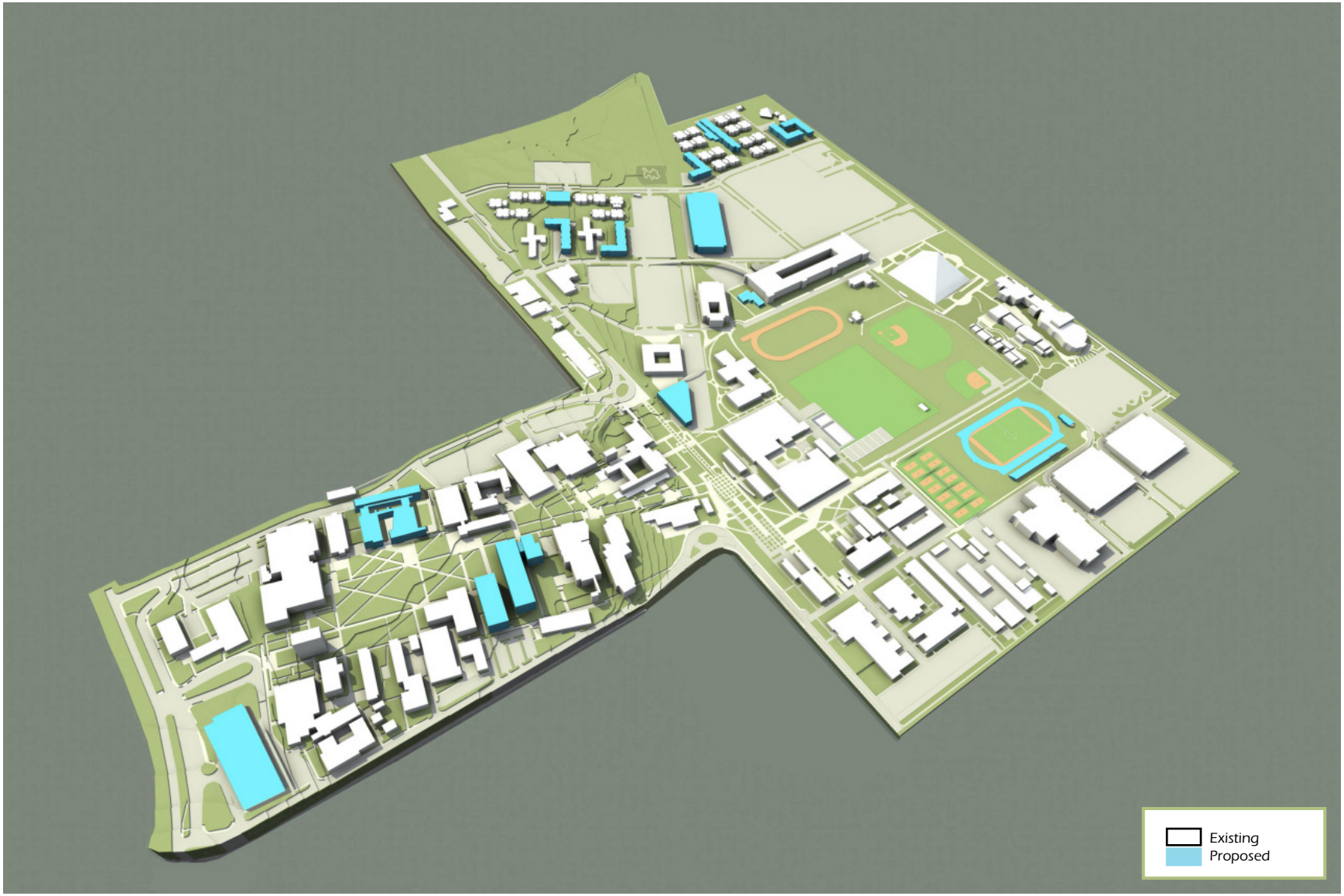
NO.	BUILDING NAME
1	E. James Brotman Hall
2	Student Health Services
3	Nursing
4	Soroptimist House
5	Family and Consumer Sciences
6	University Student Union
7	Cafeteria
8	Bookstore
9	Psychology
10	Liberal Arts 5
11	Liberal Arts 4
12	Liberal Arts 3
13	Liberal Arts 2
14	Liberal Arts 1
15	Faculty Office 3
16	Faculty Office 2
17	Lecture Hall 150-151
18	KKJZ
19	Library
20	Academic Sevices
21	Multi-Media Center
22	Education 1
23	Education 2
24	McIntosh Humanities Office Building
25	Language Arts Building
26	Studio Theater
27	University Theatre
28	University Telecommunications Center
29	Art Annex
30	*Peterson Hall 1 Replacement*
31	*Peterson Hall 2 Replacement*
32	Fine Arts 1
33	Fine Arts 2
34	Fine Arts 3

NO.	BUILDING NAME
356	Fine Arts 4
36	Faculty Office 4
37	Peterson Hall 1
38	Peterson Hall 2
39	Peterson Hall 3
40	Science Lecture Halls
41	Microbiology
42	Animal House
43	Greenhouse 1 and 2
44	Electrical Substation (North)
45	Faculty Office 5
46	Social Sciences/Public Affairs
47	University Gymnasiums
48	Health and Human Services Classrooms
49	Health and Human Services Offices
50	Vivian Engineering Center
51	Engineering 2
52	Engineering 3
53	Engineering 4
54	Design
55	Human Services Design
56	Engineering Techonology
57	Facilities Management
58	Corporation Yard
59	Patterson Child Development Center
60	Los Alamitos Hall
61	Los Cerritos Hall
62	Residence Halls and Commons
63	Recycling Center
64	Greenhouse 3
65	Electrical Substation (South)
66	Reprographics
67	Communications - Main Distribution Facility A

NO.	BUILDING NAME
68	Restrooms / Storage
69	Softball Field Restrooms
70	Communications - Main Distribution Facility B
71	University Music Center
72	Carpenter Performing Arts Center & Dance Center
73	Mike and Arline Walter Pyramid
74	Parking / Transportation Sevices
75	International House
76	Earl Burns Miller Garden
78	Visitor Information Center
79	Communications - Main Distribution Facility C
80	University Police
81	Pyramid Annex
82	Outpost Food Services
83	Engineering / Computer Science
84	Steve and Nini Horn Center
85	College of Business
86	Central Plant
88	Parking Structure No. 1
89	Housing & Residential Life
91	Parking Structure No. 2
92	Parking Structure No. 3
93	*Student Recreation & Wellness Center*
94	Molecular and Life Sciences Center
95	*Peterson Hall 3 Science Replacement Building*
96	*Parking Structure 4*
97	*Parking Structure 5*
99	*Liberal Arts Replacement Building*
100	*Student Services Addition*
101	*Student Housing Phase 1*
102	*Student Housing Phase 2*
103	*Soccer Complex*
104	*Food Services*

Legend: Existing Facility / *Proposed Facility*

See Previous Page for Building Locations



PROPOSED MASTER PLAN CAMPUS

AERIAL VIEW

PROPOSED FACILITIES LIST

Description	GSF	ASF
State		
Liberal Arts Replacement Building	110,000	71,500
Peterson Hall 1 Replacement	87,725	54,708
Peterson Hall 2 Replacement	62,830	38,408
Utilities Infrastructure Upgrade	NA	NA
Student Services Addition - E. James Brotman Hall	60,000	39,000
Sub total	**320,555**	**203,616**

Non-State		
Soccer Complex	7,755	5,429
Student Housing Phase 1 (980 beds)	301,817	231,315
Student Housing Phase 2 (1034 beds)	322,749	243,395
Parking Structure 4 (1,800 spaces)	140,000	
Parking Structures 5 (1,100 spaces)	81,000	
Food Service Building	9,000	6,750
	862,321	**486,889**

Housing Goals

To support the academic mission and values of the university.

To plan for 20-year growth that fits into the campus while maintaining the quality of environment.

To foster a sense of community and provide linkage between Residence Commons and Parkside Commons, the two housing neighborhoods.

To develop a housing master plan and building program that enhance the quality of residence life by providing diverse opportunities to the students for the socialization, recreation, collaboration and group studies in a safe, healthy and friendly environment.

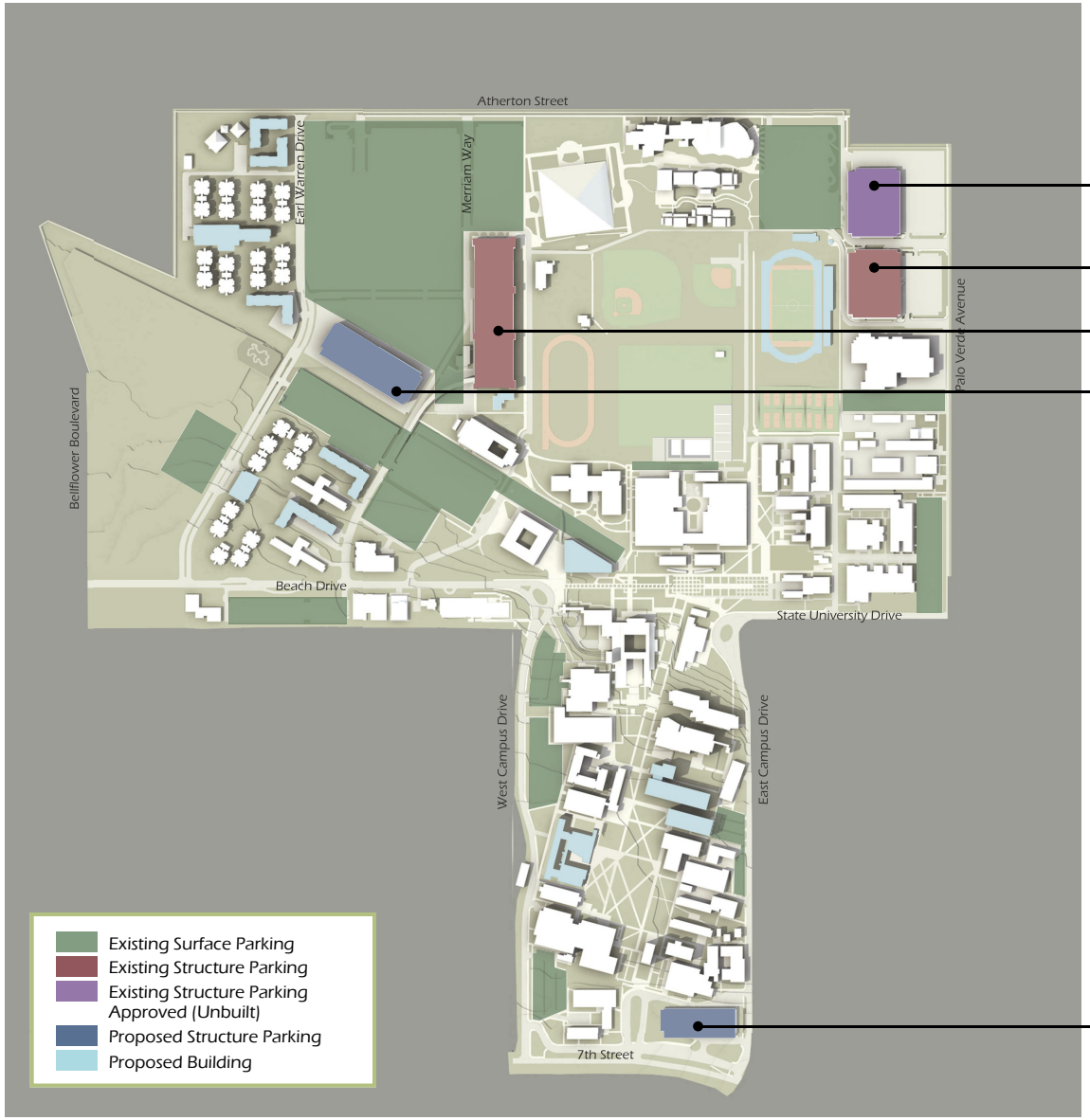
To program meaningful outdoor spaces linked by pedestrian circulation pathways leading to destination points and to create attractive indoor-outdoor spaces, such as coffee houses, where students can extend their academic and social activities.

To emphasize sustainable design and energy efficiency in the layout of buildings, site planning and building design, consistent with the long-term environmental and fiscal agenda of the campus and the CSU Board of Trustees.

Parkside Commons.

Los Alamitos Hall and Residence Halls at Residence Commons.

Exterior common space at Residence Commons.



CAMPUS PARKING
5 parking structures will provide for the increased parking demand associated with gradual enrollment increase.

Parking Needs

Additional parking structures will need to be constructed to accommodate the gradual enrollment growth on campus. Structures are planned to keep students parking on campus. Parking Structure 4 will be located in Parking Lot 14A between Merriam Way and Earl Warren Drive and replaces surface parking. Parking Lot 14A has 1,097 spaces. Parking Structure 4 is anticipated to provide 1,800 spaces. Parking Structure 5 will be located in the southeast corner of the campus in Parking Lot 7 which has 211 spaces. This structure is anticipated to provide 1,100 spaces.

Proposed Parking Structures

Parking Structure 4 - 1,800 spaces in Lot 14A which has 1,097 spaces.

Parking Structure 5 - 1,100 spaces in Lot 7 which has 211 spaces.

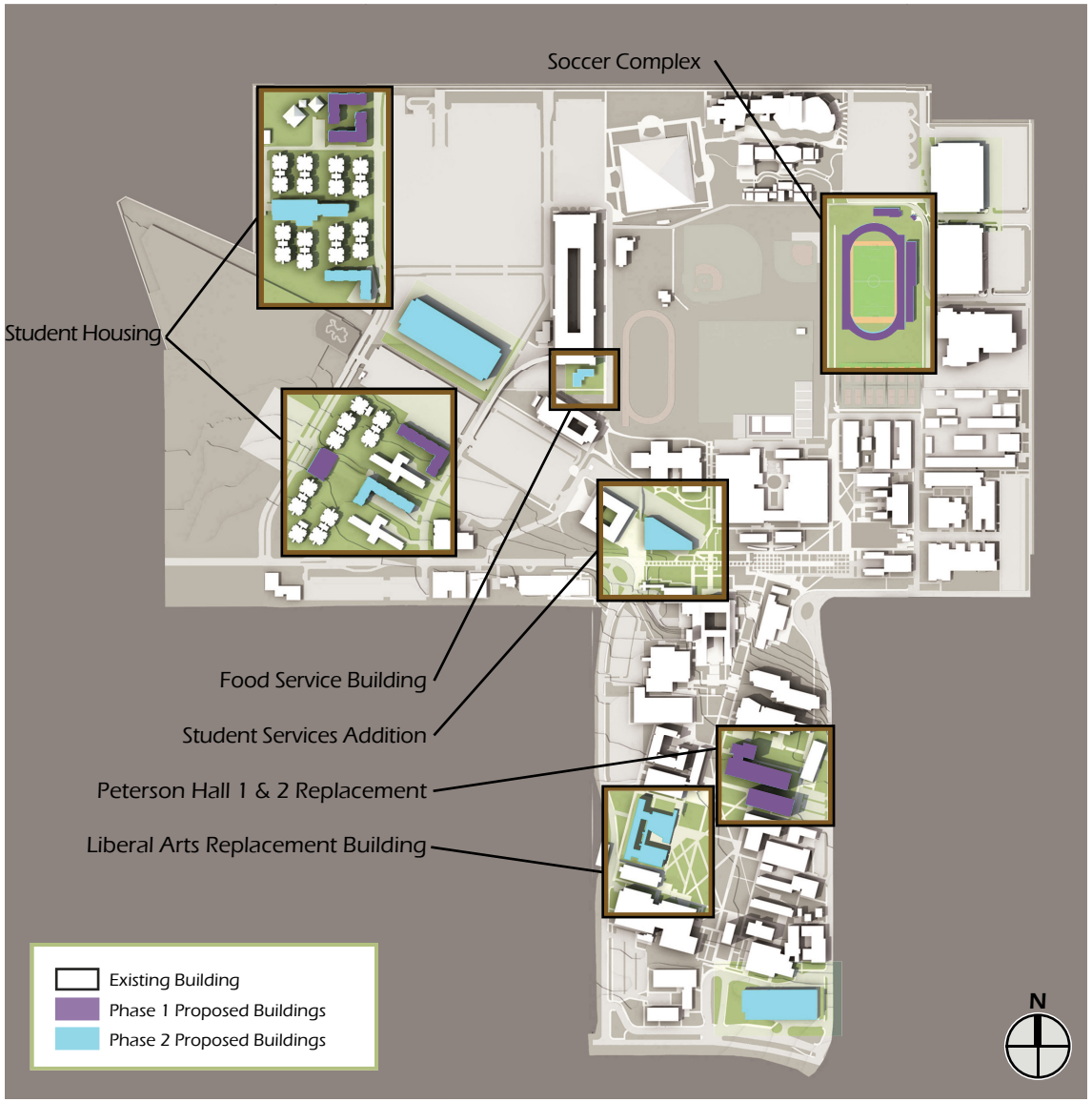
Both structures are planned to keep students on campus.

Specific Area Plans

E

Area Plans
Peterson Hall 1 & 2 Replacement
Student Services Addition
Liberal Arts Replacement Building
Student Housing
Soccer Complex

SPECIFIC AREA PLANS



Six areas of the CSULB campus are identified and studied in detail as Specific Area Plans

AREA PLANS

Seven sites have been identified on the campus as areas for more detailed development. The projects designated Phase 1 projects are planned to accommodate the early phases of enrollment growth. These areas are the Student Services Addition, Liberal Arts Replacement Buildings and the Peterson Hall 1 & 2 Replacement Building. Where buildings exist on these sites, they will be removed and replaced with more efficient structures.

The three remaining Area Plans are identified on the facing illustration. While not illustrated and described at the same detail as the three priority sites, a brief description of the program and site requirements of those projects is included at the end of this section. The Area Plans that follow represent analysis and concepts.

Peterson Hall 1 & 2 Replacement

The College of Liberal Arts is the largest of the eight colleges with a student population of 7,000 majors, 36% of the overall campus FTE, and 25 academic departments and programs. The College offers 90% of the first year (foundation) courses and 40% of all courses taught on the campus.

This project is planned to addresses the campus' deficits in faculty offices, general administration space, media and instructional activity space.

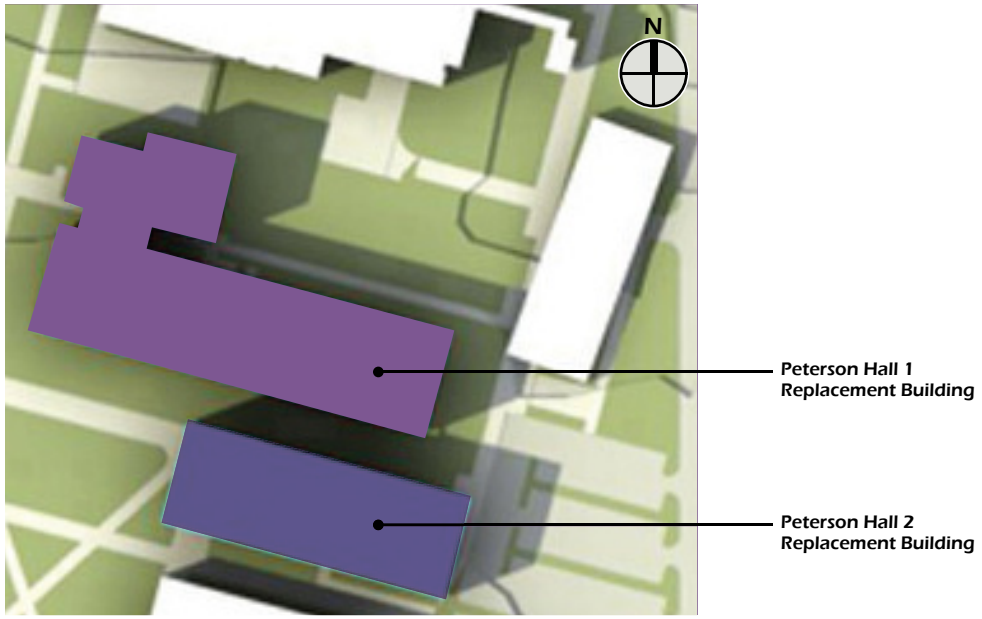
Both of the Peterson Hall buildings were designed by the Office of the State Architect in 1957 and completed in 1959 specifically for science instruction. These buildings are functionally obsolete and in desperate need of major renovation and repairs. They have not had major renovation since their occupancy in 1960 and 1961. Peterson Hall 1 & 2 does not have the required square feet to meet the program or meet the minimum code required support systems necessary for occupant safety.

The existing envelope for both Peterson Hall 1 and 2 does not provide an adequate thermal envelope to meet Executive Order 987 requiring building renovations to exceed current California Title 24 Energy compliance by 15%.

Peterson Hall 1 and 2 buildings were among the buildings reported on in the annual Seismic Review Board (SRB) report presented to the Board of Trustees on September 19-20, 2006. These buildings were

PETERSON HALL 1 & 2 REPLACEMENT BUILDING

Enlarged Area Plan



Buildings nearly 50 years old will be replaced with two proposed buildings in two phases.

identified by the SRB as Priority 2, which identifies buildings that must be seismically retrofitted when any new construction work occurs on the identified building even in cases where the modifications do not rise to the minimum code thresholds that trigger a Division VI-R call for assessment and/or seismic modification.

The existing buildings were built with a 12'-6" floor-to-floor spaces, and do not allow room to run horizontal duct mains below the existing beams. The air handlers and ventilators in the building are aging and beyond their useful life. The exhaust fans are nearing life cycle depletion. The buildings are served primarily by wall mounted unit ventilators. All HVAC systems are beyond their useful life and will need to be replaced in full to meet the CSU Energy Policy.

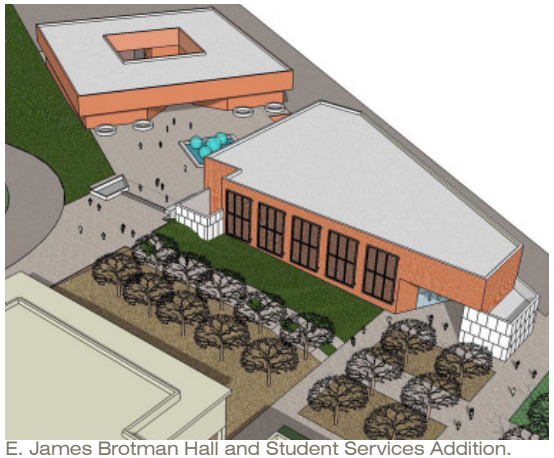
The electrical equipment and fixtures have outlived their manufactured life cycle. Current plumbing code requires 150 new toilet and sink fixtures to be added to address the program requirements.

These buildings do not meet ADA accessibility standards or California Title 24 Energy compliance. Hazardous materials exist throughout the building – floors, ceiling tiles, pipe insulations, cement plaster, and caulking. Lead paint exists at windows and door frames; roof building paper and mastic contain asbestos.

Peterson Hall I and II, in the Liberal Arts area of campus, are to be demolished and replaced.

STUDENT SERVICES ADDITION

Conceptual Renderings



E. James Brotman Hall and Student Services Addition.

E. James Brotman Hall and Student Services Addition.

Student Services Addition

Multiple student services are located in numerous buildings across campus which results in fragmented and inefficient services to support student success. The purpose of the Student Services Addition is to consolidate these services into a centralized location on campus to more efficiently and effectively serve the needs of our students.

The Student Services Addition will be located in a portion of Parking Lot 3 and will provide more efficient and effective student services in a centralized location of the campus. The services to be housed in this addition will complement the student services such as enrollment services, the Bursar's office, student counseling, the career center, academic advising and the learning resource center that are currently located in Brotman Hall and in the Horn Center. The addition will allow for the consolidation of multiple student service locations that are presently located in numerous buildings throughout upper campus. The vacancies resulting from this consolidation will allow those spaces to be converted into other uses including instruction and faculty offices. The project benefits our students by providing a centralized support services that will be located between student parking lots and the academic buildings where they take their classes. This will provide a one-stop location where students can obtain enrollment information, financial aid assistance, academic advising, and tutoring, for example, all of which promote our students' abilities to achieve success in their progress toward degrees.

Liberal Arts Replacement Building

The purpose of this project is to demolish these inefficient, seismically deficient buildings and construct a replacement building that houses classrooms, faculty and department offices to support the campus growth to 31,000 FTE.

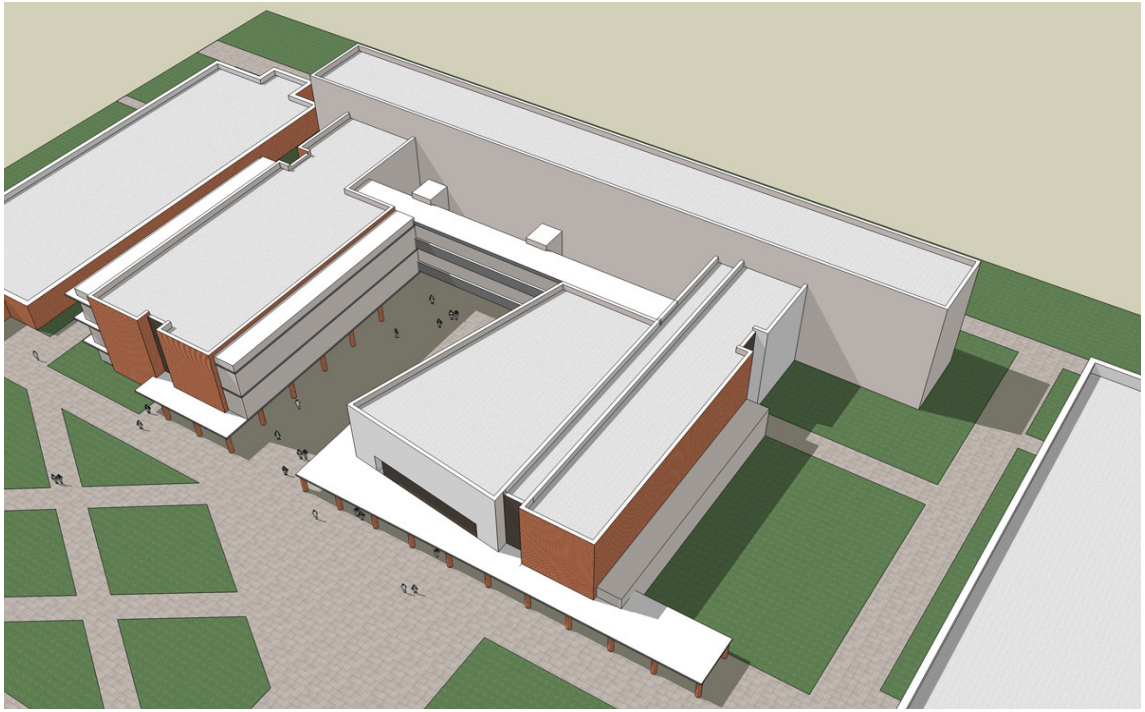
The Liberal Arts 2, 3, & 4 complex was designed and constructed in 1954 and 1955. The buildings contain a number of all university classrooms, department offices, and support spaces. The buildings are single-loaded poured in place buildings that do not provide any flexibility for a comprehensive renovation. Faculty Office 2 was constructed in 1957, respectively, and is a wood-framed buildings housing department, faculty and support offices. It does not meet current building code, fire/life safety, structural, or accessibility requirements. Lecture Halls 150 and 151 were constructed in 1955 and serve as two of the largest of all university classrooms on campus, holding a total of 405 student stations. The utilization of these rooms is 69%, well above the CSU baseline of 53%. These rooms have had limited improvements since they were originally constructed and do not meet the needs of modern day technology.

The fifty year old buildings constructed of poured-in-place concrete do not compy with current seismic codes. The single loaded corridor configuration does not lend well to cost effective renovation. The operating systems in these buildings have exceeded cost effective life cycles. Hazardous materials exist throughout the buildings. None of the buildings are air conditioned. Temperatures in these buildings exceed 90 degrees during the months of July through September. There are no restrooms in the buildings, which is in violation of the California Building Code.

This project supports the strategic plan to provide high quality services that enhance access and usability. In this, the university strives to achieve excellence in service delivery to support the academic priorities and foster student success.

LIBERAL ARTS REPLACEMENT BUILDING

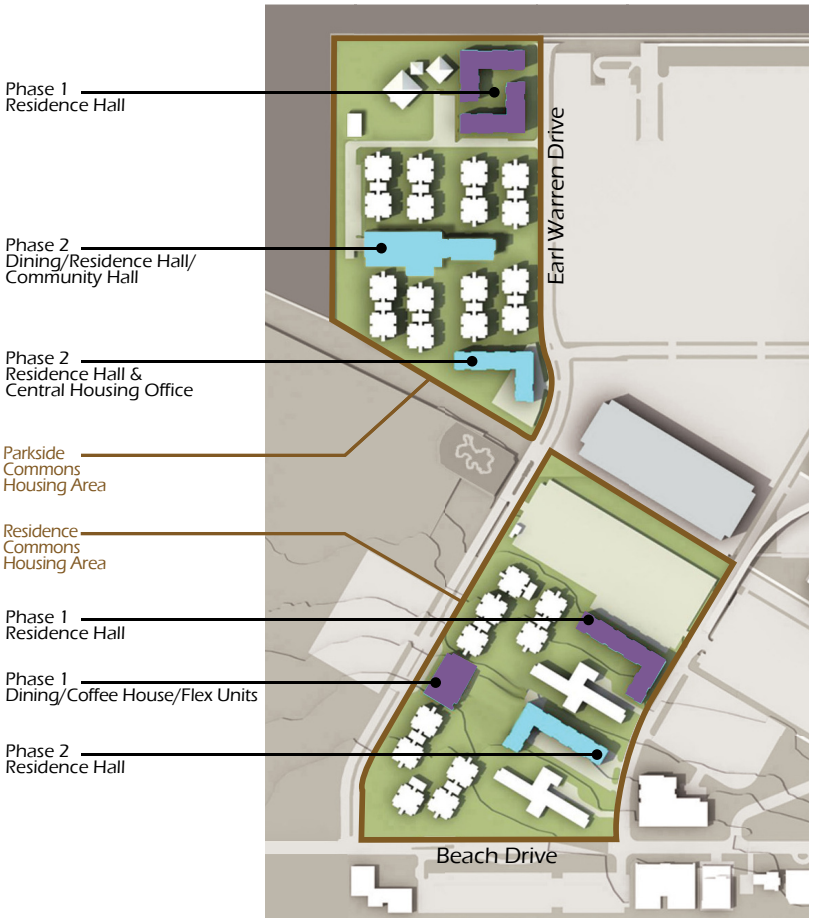
Conceptual Renderings



The Liberal Arts Replacement Building will provide additional general instruction space to accommodate increased enrollment. The project replaces aged buildings with state of the art facilities and more efficient site utilization.

Liberal Arts Replacement Building.

Student Housing



CAMPUS HOUSING
Seven buildings are proposed to provide for increased student housing demand.

Existing Building
Phase 1 Proposed Buildings
Phase 2 Proposed Buildings

Goals

Currently, 7% of undergraduate students live in college-owned, operated, or affiliated housing.

There are eighteen existing residence halls which are divided into two clustered neighborhoods; Parkside and Residence. The unique International House pairs international students with U.S. residents. Approximately 4% of undergraduate students participate in fraternities and sororities, although these organizations are not housed on university property.

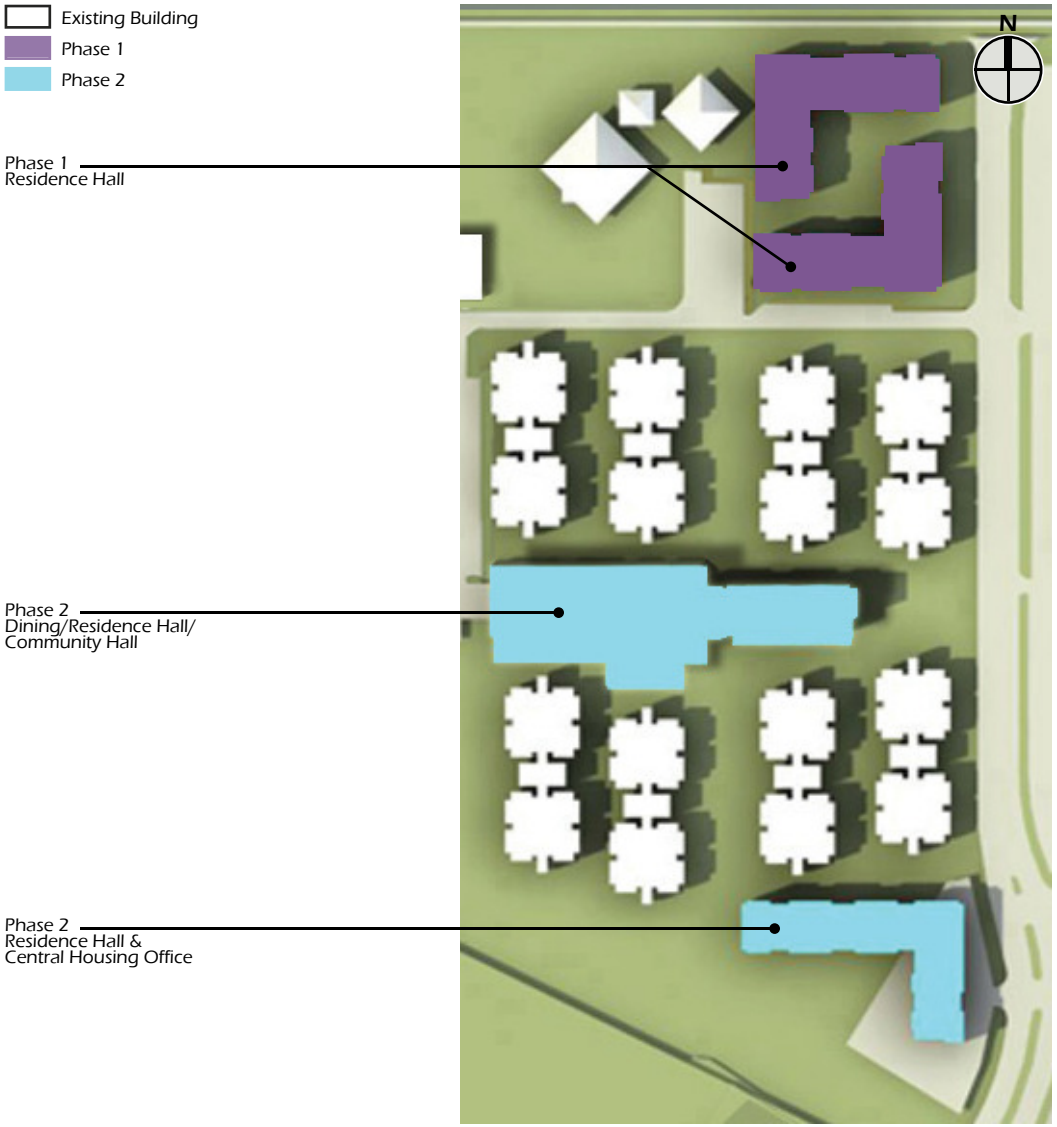
The Student Housing Master Plan will increase the total bed count by 2,014. Adding two new dining commons, two convenience stores, two coffee houses, seminar, activity and conference rooms.

Phase 1 will be comprised of 980 beds, one dining common, one coffee house, offices and other amenities.

BED TYPE	EXISTING	PHASE 1	PHASE 2	TOTAL
Student Beds	1922	888	1013	3,823
R.A. Beds	40	22	21	83
Flex Beds	0	70	0	70
Total Beds	1,962	980	1034	3,976

PARKSIDE COMMONS HOUSING

Aerial Massing Diagram



Parkside Commons Housing

Parkside Commons expansion will include the replacement of the existing dining and commons with a long, linear building with a breezeway weaving a major north-south pedestrian circulation spine in the Parkside Commons neighborhood. With dining, kitchen and loading dock on the west wing and convenience store, laundry and multipurpose hall on he east wing, the building will have three floors of student housing above to accommodate 306 student beds, six R.A. units and two resident coordinator apartments.

At the current site of the Housing Administration Office, two residence halls positioned around a central courtyard will add 508 beds and 14 R.A. Units. The south residence is programmed as a four-story building. The north residence hall is programmed for three stories to maintain a low profile towards the single family residence across Atherton Street and the single story Child Development Center to the west.

Completion of Parkside Commons Housing will consist of the construction of a new four-story building with 395 (283 net beds) student beds and seven R.A. units, which will include a street-level Housing Administration Office along Earl Warren Drive.

RESIDENCE COMMONS HOUSING SOUTH

Aerial Massing Diagram

Residence Commons Housing North will add 848 (804 net beds) student beds, 16 R.A. units, 35 flex units, two residence coordinator apartments, dining hall, coffee house, convenience store, activity room, housing office and an arts and crafts room.

Residence Commons Housing

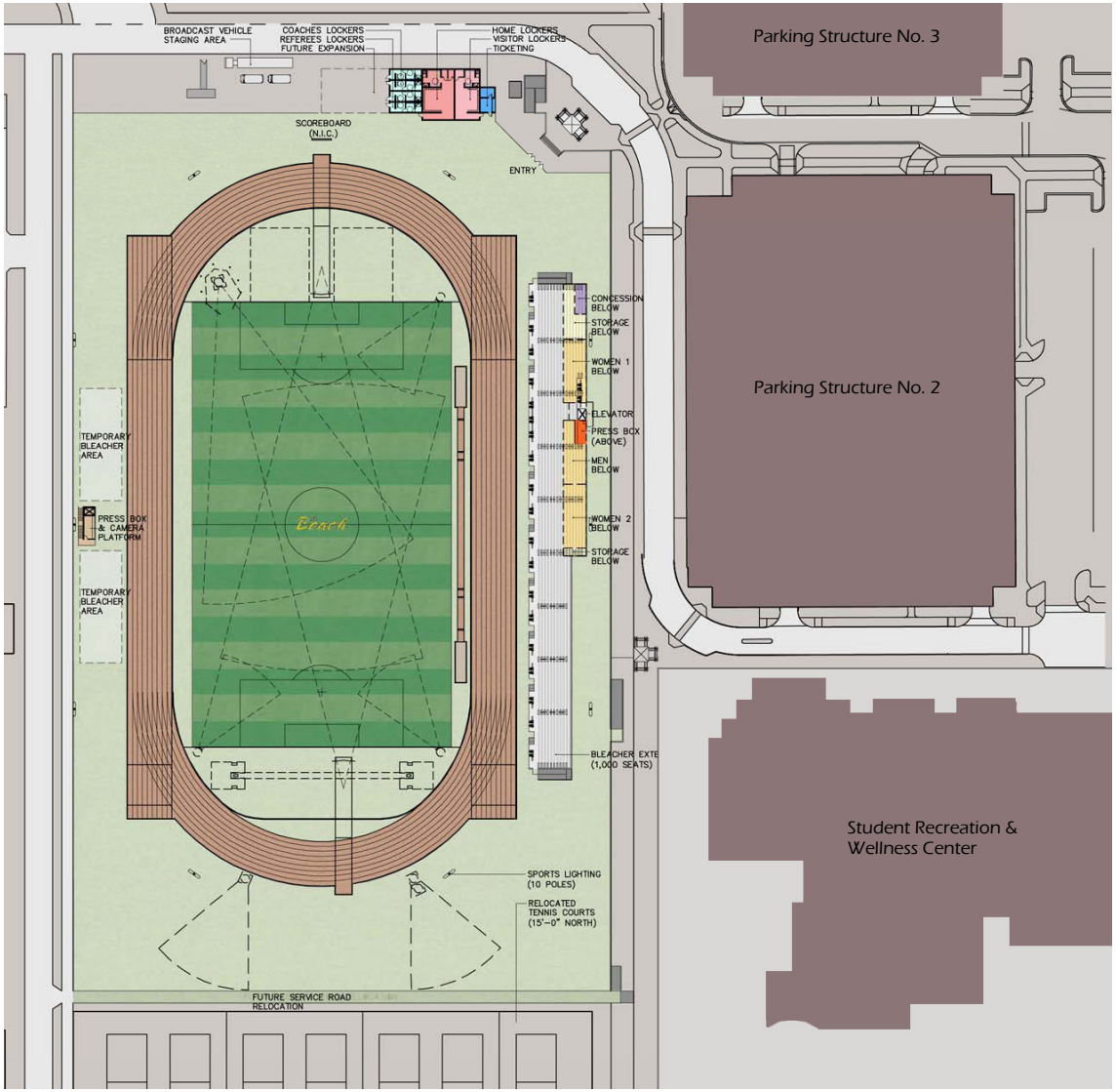
Residence Commons expansion will include the construction of a new dining hall in a central location while keeping the existing dining hall in operation. The existing Residence Commons Office Building and a portion of Building D will be demolished. The new dining building includes a coffee house, convenience store, activity room, housing office for Residence Commons, arts and crafts room, two residence coordinator apartments and 35 flex units.

In addition to the dining building a residence hall with 424 beds (380 net bed) and eight R.A. units will be developed at the open field space north of Los Alamitos Hall.

Completing build-out for the Residence Commons is a 424 bed plus eight R.A. units in a four-story building on the site of the existing dining hall. The building engages Los Cerritos Hall to create a large semi-open courtyard.

SOCCER FIELD AND SPORTS BUILDINGS

Aerial Massing Diagram



Soccer Field and Sports Buildings

The proposed soccer field area improves the existing George Allen Field which is currently used for a variety of athletic and kinesiology activities including soccer. The improvements provide bleacher seating to accommodate 1,000 spectators on the east side of the field. Team facilities include locker rooms, small ticket booth, public restrooms and limited food concession will be provided for game day use. Night game lighting will be provided to accommodate game schedules. The lights will be installed on poles as short as possible with the best technology available to minimize glare and spill over lighting.

Adjacent existing parking facilities will be used for event parking since sports events will most often occur at off-prime parking times and days. Additional parking will not be required to support this area plan.

The Soccer Field and Sports Buildings will include bleachers, locker rooms, ticket booth, public restroooms, food concession and running track surrounding the soccer field.

Utility Master Plan

F

Executive Summary
Summary of Findings and Recommendations

Executive Summary

Background and Scope

P2S Engineering Inc. was contracted by CSULB to evaluate the utilities currently serving the existing Campus, consider alternatives for improvements, and make specific recommendations to alter/upgrade/modify the existing utility infrastructure to support new buildings, major renovations, and building replacements that form part of the proposed Campus Master Plan. The utilities within the campus boundaries are comprised of domestic and reclaimed water, sewer, storm drain, irrigation water, chilled and hot water distribution, gas, electrical and telecommunications systems, and are all owned and operated by the campus. Long Beach Gas Company and Southern California Edison (SCE) Company provide gas and power to the campus respectively. Verizon is the local exchange carrier (LEC) for the telecommunication services.

The University has its own electrical distribution system which receives 66kV transmission service from Southern California Edison and purchases its electric supply directly from an energy service provider.

The University also has a central heating and cooling plant with a thermal energy storage that provides heating and cooling to majority of the buildings on campus. The thermal energy storage system reduces the peak electrical loads and saves the University substantial costs by shifting the cooling production to off peak hours.

Since the majority of the campus was built in the 1950's, the campus has certain aging utilities that are in need of repairs and upgrades. With the exception of power, telecommunications and chilled water and heating hot water distribution, majority of the wet utilities date back to campus inception and are over 50 years old.

Objective

The objective of the utility master plan study is to evaluate the existing utilities currently serving the existing CSULB Campus, consider alternatives for improvements and make cost-effective and specific recommendations as necessary to alter/upgrade/modify the existing utility infrastructure to support new buildings, major renovations, and building replacements that form part of the proposed Campus Master Plan.

Methodology

The following methodology was adopted in formulating the utility infrastructure master plan.

- A detailed survey of the existing utility systems that currently serve the facilities at the CSULB campus was conducted, and existing conditions, together with potential problems, were identified. The surveyed information was verified through available record drawings and meetings with the campus facilities staff.
- Each utility system was evaluated for capacity, functionality, reliability, ease of maintenance, age, and its ability to serve the present and future needs of the campus.
- Alterations/upgrade/modifications necessary to support new buildings, major renovations, and building replacements that form part of the proposed University Facilities Master Plan were identified.
- Costs associated with each of the required utility upgrades were developed based on P@S Engineers recommendations.

Report Overview

The Utility Infrastructure Master Plan report provides an analysis of the present utility systems currently serving the facilities, identifies potential problems associated with each of these utility systems, defines future requirements, outlines recommended solutions and phasing plans, and costs to implement them. The utility systems that were evaluated and included in the report are: Domestic and Fire Water System, Sewer System, Storm Drain System, Irrigation Water, Natural Gas System, Chilled and Heating Hot Water Systems, Electrical Systems and Telecommunication Systems.

A description of each utility system, including current conditions and identified problems, is presented in Chapter 2 of the complete Utility Master Plan. Information on each utility system was obtained through field surveys, existing documents and records, and discussions with campus staff knowledgeable with utility systems.

Chapter 3 includes a description of planned growth of the campus, as well as a description of how eachutility system is positioned to handle future growth. Chapters 2 and 3 of the report identify potential problems for each of the utility systems associated with both existing conditions and planned growth.

Chapter 4 provides recommendations and modifications necessary to each of the utility systems to accommodate present and future needs of the campus.

Chapter 5 provides an implementation and phasing plan for each of the utility systems.

Chapter 6 provides cost estimates for the proposed recommendations.

Appendices 'A' 'B' 'C' and 'D' include modeling information for the various utilities and fire flow test reports.

Summary Of Findings and Recommendations

The following section summarizes P2S's findings and recommended solutions for each of the existing utility systems that were evaluated as part of their study.

Domestic and Fire Water System:

Findings

• An evaluation of the existing Water System revealed that a portion of the existing water system is comprised of old transite and Asbestos Cement Pipe (ACP) mains pipe. The existing water pipes on the south side of the campus are undersized. The evaluation also revealed that some lines will have to be relocated due to proposed buildings located on top of the existing lines.

Recommendations

• Replace existing transite and ACP mains with polyvinyl chloride (PVC) class 900 plastic pipe in phases and allow for upsizing pipe where necessary. This can be achieved by replacing lines adjacent to new construction projects to bring portions of the campus to a more functional level.

• Relocate lines that are in the site of proposed buildings.

Sewer System:

Findings

• An evaluation of the existing Sewer System revealed that it is adequate in size to support the present and future needs of the campus. However, portions of the existing system has roots intrusion and a few of the lines were found to have cracking and in need of joint replacement. The evaluation also revealed that some lines will have to be relocated due to proposed buildings located on top of the existing lines.

Recommendations

• Replace existing lines that are affected by root intrusions and have cracks and joints displacement.

• Relocate lines that are in the site of the proposed buildings.

Storm Drain System:

Findings

• An evaluation of the existing Storm Drain System revealed that it is adequately sized for campus storm water flows and can accommodate a10year storm event. Repairs will need to be made to pipes that have deteriorated due to age. In addition, some lines will have to be relocated due to proposed buildings located on top of the existing lines.

Recommendations

• Replace deteriorated pipe and relocate lines that are in the site of the proposed buildings.

Irrigation Water

Findings

• An evaluation of the existing irrigation water system revealed that the south portion of the campus is connected to the domestic water system and the north portion of the campus connects to a reclaimed water system. The south portion of the irrigation lines are connected to the potable water mains by atmospheric pressure breakers which are not compliant with the local health department regulations.

Recommendations

• The reclaimed water networks on the north side of the campus are recommended to be connected together to form a single network. Combining the two networks into one would provide redundancy to the system in case repairs are ever needed and would help improve pressure and flow.

• A thorough study of the non backbone system components is warranted to verify code compliance on the south side of the campus. Any non-compliant components should be considered for upgrade to backflow preventor systems.

Chilled and Heating Hot Water Systems:

Findings

• An evaluation of the existing Heating Systems serving the buildings at the campus revealed that the boilers and their associated pumps are adequate to support proposed near term buildings. However, additional heating capacity of 10,800mbh will be required to support the balance of facilitiesin the long-term.

• An evaluation of the existing Cooling Systems serving the buildings at the campus revealed that although the system is adequately sized to meet the current demands of the campus, an additional 10,000 ton-hours of Thermal energy storage will be required to support the full build out of future buildings to support the increased enrollment.

Recommendations

• Provide additional heating capacity of 10,800 mbh to the existing Central Plant

• Provide additional 10,000ton- hours of TES to the existing Central Plant.

• Implement energy efficiency measures.

Gas System:

Findings

• An evaluation of the existing Gas System revealed that the system has adequate capacity to serve proposed buildings. However a majority of the campus distribution system is composed of PVC pipe with some portions retrofitted with polyethylene (P.E.) plastic or steel pipe. PVC pipe is not the recommended plastic pipe material to be used for a natural gas distribution system. In addition, the existing PVC pipes are connected with glue and are breaking down, causing gas leaks throughout the distribution system.

Recommendations

• Replace existing PVC pipe with P.E. pipe.

• Provide modifications to the existing distribution system to accommodate the proposed buildings as detailed in the report.

Electrical System:

Findings

• An evaluation of the existing Electrical System revealed that the main switchgear and the distribution system are in good condition. However, some feeders are not balanced and need to have loads shifted to balance them.

• One of the main 66kV-12kV transformers is old and has past its useful life. In addition, the configuration of the existing system allows both transformers to trip in event of a fault.

• A few lines were found to be in conflict with the proposed buildings and need to be relocated.

Telecommunications System:

Findings

• The telecommunications infrastructure was recently upgraded to CSU Standards for the interbuilding pathways, media, and spaces that serve state-owned buildings. It has sufficient capacity to meet the University's requirements for the next twenty-five years. Some ductbanks and cables systems will be extended in order to serve new campus building sites.

• The proposed locations for some proposed building projects are in conflict with existing telecommunications ductbanks. The locations of the proposed building sites will require minor revisions to avoid the ductbanks or the existing ductbanks with cables will require rerouting in order to maintain service to adjacent buildings.

• The type of station cables are Category 5e and at some point in time will require replacement with Category 6 type cables, recently adopted CSU standard, as new technology is implemented in the buildings.

• The infrastructure in the majority of non-state buildings including spaces, pathways, and media are congested, obsolete, and do not meet current CSU Standards. The infrastructure inside the non-state buildings will be reviewed and modifications completed to ensure service from the University.

Recommendations

• Adopt Category 6 type copper cables as the campus standard for all new/renovation building projects.

• Upgrade the telecommunications infrastructure.

The complete Utility Master Plan document is bound separately from the Campus Master Plan.