5 | Land Use and Site Development Framework

The Land Use and Site Development Framework consists of the plans that will guide the placement of facilities to accommodate program growth.

The goal for facilities development is to accommodate planned growth in a more attractive, distinctive campus environment that will engage current and prospective students and parents and meet the mandate to be a "vibrant university village." At the same time, flexibility must be maintained for programs and facilities that cannot be currently predicted.

The Land Use and Site Development Framework includes:

- Existing Land Use
- Land Use Principles
- Development Pattern
- Land Use Plan
- Land Uses
- Illustrative Plan and Parcel Plan
- Parcel Matrix
- Density of Future Development
- Building Siting and Configuration
- Sustainable Design.

Existing Land Use

Figure 27 illustrates the existing generalized pattern of primary land uses on the 364-acre Hayward campus. Academic uses occupy the center of the relatively flat, developable portion of the campus. This core academic zone is flanked by the Pioneer Heights housing area on the south, and surface parking on the east, west and north. Athletics fields occupy the northwest part of the developed campus.

The lands to the south of Pioneer Heights are undeveloped open space and are unlikely to ever be used for facilities due to the extreme topography and sensitive vegetation of the area.

Upon completion of the Student Services and Administration Replacement Building, the Hayward campus will have approximately 1,400,000 total gross square feet of facilities.

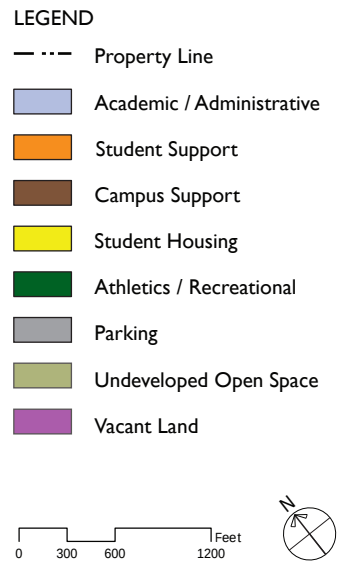
The Hayward campus benefits from a highly efficient, compact campus layout. However, the developable area of the campus is smaller than many other CSU campuses, and in order to accommodate 18,000 FTES, future development will need to at higher densities (building heights and closer spacing) than currently exists.

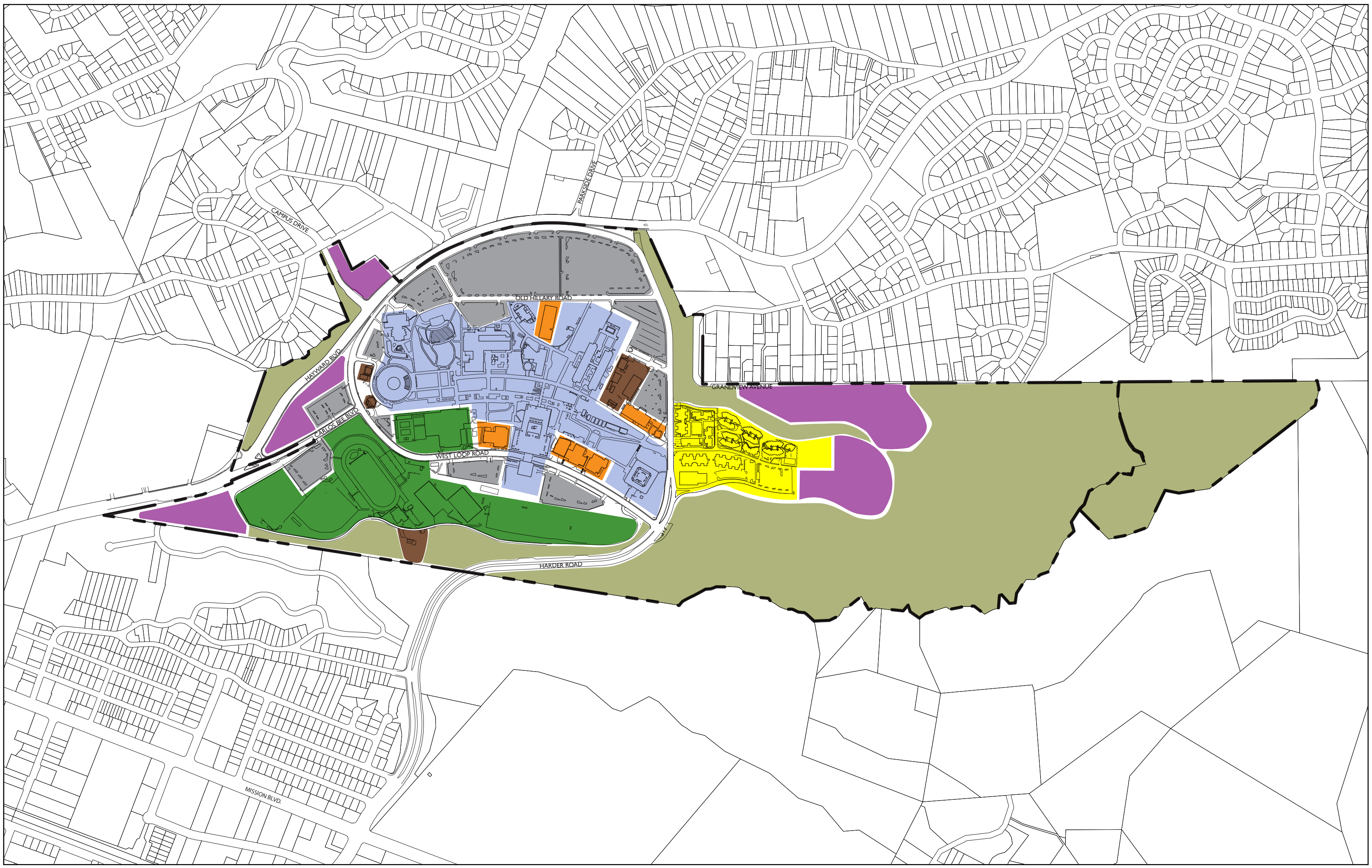
Land Use Principles

In order to accommodate campus growth to 18,000 FTES in a manner consistent with the vision for CSU East Bay, expansion will be guided by the following principles.

- Increase average building density or intensity by increasing average building heights and using sites efficiently.
- Infill academic sites in the core of the campus, framing existing and future open spaces, to create a compact, walkable academic core.
- Pursue a goal of housing 5,000 students.
- Create two student housing "neighborhoods," each with supporting dining, student activity facilities, and open space that can accommodate informal recreation.
- Maintain the athletics fields on the northwest corner of the site, relocating the soccer practice field north to adjoin the existing tennis courts; reconfigure existing field areas and expand gym and pool areas.
- Over time, and consistent with the University's Transportation Demand Management strategies, replace surface parking with structured parking.

Figure 27
Existing Land Use




CAMPUS DRIVE
PARKSIDE DRIVE
OLD HILLARY ROAD
HAYWARD BLVD
CARLOS BEE BLVD
WEST LOOP ROAD
GRANDVIEW AVENUE
HARDER ROAD
MISSION BLVD.

Development Pattern

The campus has been built to this point largely in accordance with the original plans for the site prepared in about 1963. This plan serves as an important starting point, and many of its basic characteristics can be retained. But as the campus grows, attention must be paid to correcting some deficiencies and in ensuring that adequate open space is provided.

Of paramount importance are four considerations:

- The arrangement of open spaces as organizing elements and amenities
- Introduction of a new primary entry or "front door" to the campus that will improve the visitor experience and overall campus image
- Alignment of buildings to retain important views to and through the campus
- Enhancing the role of primary pedestrian corridors as organizing elements which will be active and onto which many buildings will face.

The strategy underlying the land use plan is to reinforce the best ideas of the original 1960's plan for the campus, which terraced the site for views and set up several axial relationships that give the campus a relatively clear organization. Future growth provides an opportunity to reinforce the best aspects of the campus plan and to emphasize new development and patterns that will make the campus a more attractive, memorable and dynamic environment, consistent with the mandate for "vibrant university villages."

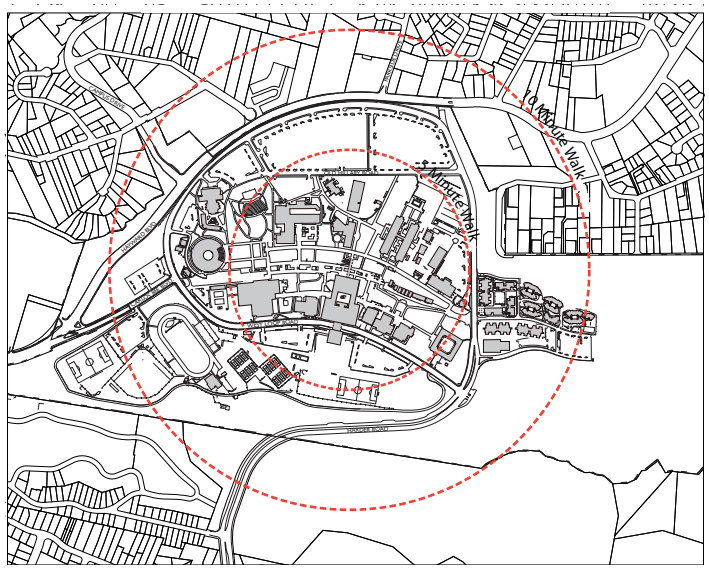


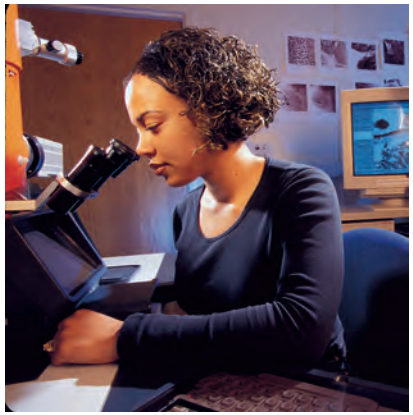
Figure 28
Campus Walking Distance from Library

Thus, the land use plan continues the pattern of the academic core surrounded by supportive uses: residential (student as well as faculty/staff), athletics and recreation facilities, campus support (e.g., central utility plant) and parking.

The nature of development of the academic core is particularly important, since this development should be accomplished within an area defined by a reasonable walk during class changes. Generally, a 10-minute walk is considered a measure of convenience in a campus environment since this typically corresponds to the class-change time. Thus, a circle with a diameter

corresponding to a 10-minute walk, or between 2,000 and 2,500 feet respectively, is considered to delineate the outer limits of an optimal zone for primary academic uses. As shown in Figure 28, overlaying the campus with this walking circle centered at the approximate middle of the existing academic area, results in a zone within which academic uses will be concentrated.

(right and below) Academic facilities will be expanded and new facilities will be added with enrollment growth.



Land Use Plan

Future land uses are illustrated on the Land Use Plan, Figure 29, and are discussed in the following section. They include the following:

- Academic and academic support uses
- Student housing and affiliated uses
- Student services
- Athletics and recreation
- Faculty and staff housing
- Major open spaces
- Open space reserve
- Campus support
- Parking

Land Uses

The land uses illustrated on the Land Use Plan are described in detail below.

Academic and Support Uses

Academic

Academic uses are proposed almost entirely within the existing academic zone bordered by the loop roads, Carlos Bee Boulevard and Harder Road. To acknowledge the new entry road from the east, two building sites are shown flanking the new entry turnaround and drop off. These should be buildings of campus-wide importance and buildings that have a potential to attract the larger Hayward and regional community, since they are well located and highly accessible. Programs such as performing arts or visual arts, or library would be well located at this entry. Student services will also be located in this area. In the

long term, this would also be an excellent location for a visitor center, information kiosk, and visitor parking for prospective students and their parents.

The academic core is not planned to have particular precincts corresponding to grouping of disciplines such as sciences and engineering, or arts. Instead, there can be flexibility in locating uses. While there may be desirable adjacencies identified at the time of siting specific new buildings, generally a mix of uses and disciplines will ensure maximum interdisciplinary interaction among faculty and students.

Library

The existing Hayward library occupies one of the early campus buildings and is no longer able to meet modern criteria for a technologically advanced, attractive venue for learning. The plan calls for this building to ultimately be renovated for other uses such as offices or classrooms, and that a new library to meet emerging student learning needs be built in a location where it can have high visibility as well as good access for resident and commuter students, during the day as well as at night.

Public-Oriented Uses

At present, Hayward lacks a critical mass of facilities to host conferences such as during the summer months. In particular, the lack of a larger auditorium limits the University not only in attracting revenue generating events but also creates challenges in hosting student orientation and other large University gatherings. Implementation of new large performance and event spaces would help the University host these special events and would also provide opportunities for expanded curricular offerings in the arts.

Housing and Affiliated Uses

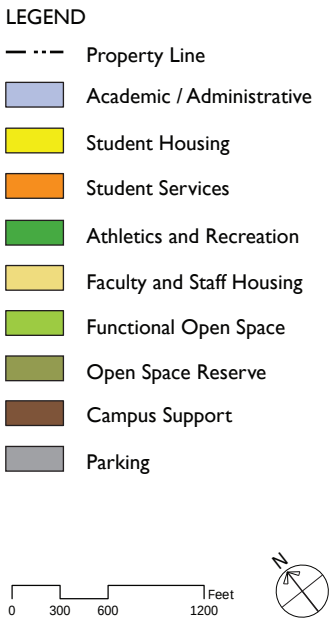
Student Housing

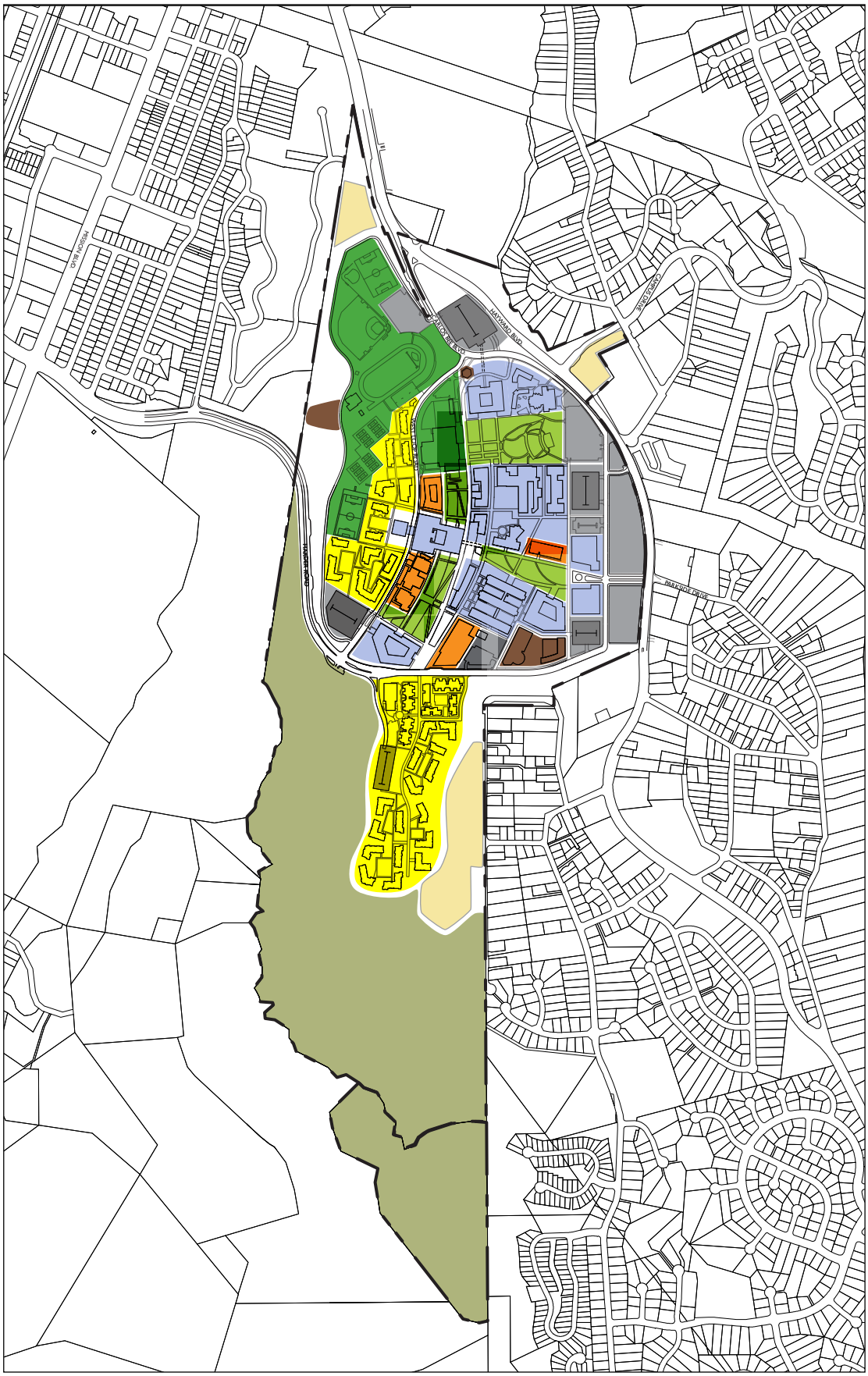
As of Fall 2008, Hayward has the capacity to house less than 10% of its ultimate FTES of 18,000. Increased levels of on campus housing have the potential to greatly change the quality of the campus experience by supporting additional student facilities (food service, entertainment, and recreation), by increasing the critical mass of students and the perceived activity level of the campus, and by supporting a 24/7 learning community. The University is therefore setting a goal of housing 5,000 students, a number that will be approximately equivalent to the size of the freshman class at 18,000 FTES.

Two neighborhoods of student housing are shown. One involves the completion of the Pioneer Heights area into a vital student neighborhood including housing, dining, recreation and support facilities. This housing area is set amidst the rolling terrain of the south campus area and adjoins the large open space reserve on the south. Pioneer Heights can accommodate approximately 3,000 students when fully built out.

The second student housing neighborhood lies on the western edge of the developable part of the campus, north and south of Warren Hall and to its west and slightly downhill. This new neighborhood will enjoy

Figure 29
Land Use Plan




OTTER AVENUE
TRAFFICK ROAD
HAYWARD BLVD
BLACK SEA BLVD
BRUCE STREET
PARKWAY DRIVE

unparalleled views of San Francisco Bay and the City of Hayward and will include the same amenities as Pioneer Heights with residences, dining and support facilities. It will include informal recreation areas and is also directly adjacent to the fields and courts of the athletics zone. This housing neighborhood can accommodate approximately 2,000 students.

It is currently envisioned that a large proportion of future student housing will be configured as suites, but over time other models such as traditional dormitories or apartments may be included as well.

Residential Dining and Food Service

Food service on campus will be accomplished in three ways:

- Dining commons located in the student housing neighborhoods
- Campus-wide food service located in the University Union
- Small distributed café, kiosk and vendor locations throughout the academic core.

This variety of dining options will make food and the activity that accompanies it more easily accessible throughout campus.

Student Services

Student Health Center

The University's Student Health Center provides students with basic health services including immunizations and health insurance (available through the Associated Students). The center also provides specialty clinics including physical therapy, podiatry, psychiatry, therapeutic message, and optometry, the latter provided through the University of California, Berkeley School of Optometry. Recognizing that the transition to university life can be a challenge, especially in light of the many other responsibilities students have, the Student Health Center also provides counseling services.

The current Student Health Center is situated near central campus and was built in 1974. The center has outgrown its current physical space which necessarily limits the services the center can provide students. Additionally, the current structure occupies space suited for academic development. The Master Plan calls for an evaluation of the current facility which will take into account the services the center should provide and the physical limitations of the current space. A relocation of the center, possibly closer to Pioneer Heights for easier student accessibility and the re-development of the current location for an academic facility should be undertaken in the foreseeable future.

Career Development Center

In an effort to help students secure employment after graduation, Cal State East Bay provides students with career counseling, cover letter and resume writing, practice interviews, and a variety of job fairs and recruitment events through the Career Development Center. The center, a division of Student Affairs, will be located in the new Student Services and Administration Replacement Building when it is opened in the fall of 2009. The center will continue to provide career counseling and services to students.

(right and below)
The athletic facilities on the Hayward campus - recreation fields, gymnasium and pool - will remain and be improved.

Bookstore

Cal State East Bay's bookstore is located in the University's Old Student Union. The bookstore provides students, faculty and staff with a variety of services which include textbook retail, course readers, university merchandise, a computer store, schools supplies, and a post office. The location of the facility and its size appears to be adequate at this time. However, with the advent of more online services including online book orders and desktop publishing the University will wish to continually evaluate the role of the bookstore and the services it provides.

Child Care

The Cal State East Bay Early Childhood Education Center offers high quality innovative programs and developmentally appropriate activities in a safe, nurturing and supportive environment. The mission of the center is to provide quality early childhood programs and services for the infant, toddler, and preschool children of the students, faculty and staff and local community.

The Early Childhood Education Center operates in partnership with Child Family Community Services, Inc. (CFCS). As enrollment grows, the University will assess the need for an expanded child care facility and a suitable site for it.

Athletics and Recreation

The field areas currently in athletics and recreation use will be maintained. The current practice soccer field that lies below parking lot A will be relocated slightly to

the north. Improvements to some field areas will allow for more efficient use of the fields by the full variety of sports activities. The gym complex will remain as located, with room to expand and/or reconfigure the main building and pool area. This area will be supplemented with the informal recreation facilities – such as grassy fields, basketball courts, volleyball areas, suitable for informal play - to be provided within the student housing neighborhoods.

Faculty and Staff Housing

Increasingly, university and colleges campuses are exploring and in some cases implementing housing projects targeted to faculty and staff. This is particularly true in California, and is driven in large part by the high cost of housing relative to other areas of the country. Many institutions face severe challenges in recruiting faculty and staff when those potential employees understand the local housing market.

However, many universities have faced significant challenges in actually implementing this type of housing. The cost of construction and management issues can make it difficult to make these projects feasible. However, recruitment will continue to be an important issue at Cal State East Bay and there is a strong desire to begin to explore housing options.

In order to meet this potential demand for faculty and staff housing in proximity to the campus, three sites are identified as suitable for this use. At this time there is no specific program for housing planned, but as the demand for this type of housing is better understood, further study will evaluate the suitability and timing of possible development.

The three sites are located at the periphery of campus where they would serve as transitions to adjacent residential neighborhoods. On the northwest, the Carlos Bee site occupies 2.5 acres of land just north of the playing field area. This site lies adjacent to property currently owned by Caltrans. The university-owned site can accommodate from 25 to 50 units of housing, at densities of 10 to 20 dwelling units per acre (du/a), typical of townhouse, duplex or low density apartment projects. With the addition of a contiguous parcel that lies on the Caltrans property, the combined sites could accommodate from 90 to 180 units. Access to this site would be from Carlos Bee Blvd. and Bunker Hill Boulevard in the adjoining residential area.

The second site is two acres in size and lies off Hayward Boulevard and Campus Drive. This site, currently vacant, lies adjacent to a former elementary school site, which also is vacant. The university site could accommodate 40 to 60 units of housing at densities of 20 to 30 du/a; combined with the adjoining parcel the larger site could accommodate from 140 to 210 units and retain some open space. This site has the potential for mixed use development with an appropriate partner.

The third site lies on the south of the developed portion of campus, just east and above the Pioneer Heights student housing area. This site would be accessed most easily from Grandview Avenue and possibly from the student housing area. This site has views to the west and south of San Francisco Bay, the City of Hayward and other adjoining communities. It has a capacity of 35 to 110 units assuming densities of four to twelve du/a.

Open Space

Certain areas of the campus are designated as useable open space. It will be important to retain these areas as open spaces as the campus population expands. The open spaces include large, currently existing areas, such as the campus amphitheater and surrounding landscaped area, as well as new large courtyards and quads that would be created among the new building projects.

The critical dimensions of these spaces are established by the Parcel Plan (Figure 31). Other guidelines associated with the design of these spaces and for the buildings that adjoin them are discussed in the Open Space Framework section of this chapter.

Campus Open Space Reserve

Approximately 130 acres of land lying primarily to the south of campus are designated as Campus Open Space Reserve. At this time these lands are not needed to meet the 18,000 FTES enrollment space needs. In addition, the slopes associated with these areas and their distance from the center of the developed campus make them costly to develop and inconvenient to access. For the foreseeable future it is anticipated that these areas will be used to support outdoor instruction or research. Access will be limited to maintenance activities with informal trails available for walking. Some existing small structures and debris remaining in these areas will be removed.

Campus Support

The campus facilities department is responsible for maintaining all building operations, grounds and campus utilities, including electrical power, heating and cooling, and water. Overall the utility distribution system is aging and requires constant monitoring and repairs. The existing boiler plant building once produced steam that was distributed throughout the campus to provide heating for buildings. However, this centralized system was abandoned years ago and boilers and chillers were installed as package units for each of the buildings.

The University has since made the decision to reestablish a central utility plant for the distribution of hot and chilled water. This will include the installation of large boilers for heating and hot water and a Thermal Energy Storage (TES) system to provide chilled water for cooling. The University has also located potential sites for a fuel cell facility to supplement the central utility plant. The new central utility plant would be located at the proposed new corporation yard in the easterly portion of the perimeter of campus. In addition to the central utility plant the new corporation yard would incorporate many of the services currently located at various locations throughout the campus, including central storage, recycling operations, waste management, University Police, Environmental Health and Safety, campus vehicles / motorpool, as well as the staff of Facilities Management and Planning, Design & Construction.

Parking

As detailed in a following section, parking at the Hayward campus will be provided in a combination of surface lots and structured parking. These facilities will remain at the periphery of campus, ensuring that pedestrian/vehicular conflicts are kept to a minimum. Parking structures are located to capture many trips as soon as they enter the campus, thus reducing traffic on loop roads and facilitating transit, bicycle and service access movements. In addition, appropriate amounts of parking for the disabled, short term, delivery and service will continue to be provided in the interior of the campus.

Illustrative Plan and Parcel Plan

The Illustrative Campus Plan (Figure 30) shows how the program can be accommodated within the land use plan and strategies outlined above. The Illustrative Plan, in addition to accommodating the full range of campus land uses such as academic and housing, also reinforces the pattern of open space and landscaping that will make Hayward a beautiful and distinctive campus. The plan is an illustration of the campus if the concepts of this plan are followed. Actual design will undoubtedly vary somewhat as specific projects are planned and designed.

The Parcel Plan (Figure 31) defines specific building parcels and describes key criteria regarding setbacks and site area needed to:

- Accommodate the prescribed building program
- Ensure an attractive and usable open space system
- Optimize adjacencies for academic and student life.

The Parcel Plan describes key dimensions, alignments, and setbacks in order to define the maximum development area that will be allowed at any given site. It should be noted that the Parcel Plan does not define actual building footprints; in most cases, the parcels shown are larger than typical building footprints. Within some parcels, multiple building footprints or uses may be located.

The Illustrative Plan shows two major existing buildings being replaced (Music Building and Meiklejohn Hall). While these buildings have been identified as unsuitable for long term retention due to their age, configuration and ability to be significantly renovated, there is no timetable for their replacement. The Illustrative Plan demonstrates a building program exceeding that which is currently envisioned for CSU East Bay, which will allow for changes in program direction and identification of new facilities or initiatives, within the 18,000 enrollment, that have not been envisioned at this time.

Parcel Matrix

The Parcel Matrix (Table 11) provides data on each parcel identified in the Parcel Plan. Key information is provided for each parcel regarding parcel size, the maximum assumed building ground floor area (footprint) and building height, leading to the maximum allowable size building (GSF) for every site. Any special considerations for a particular parcel are also noted.

Figure 30
Illustrative Campus Plan

Figure 31
Parcel Plan

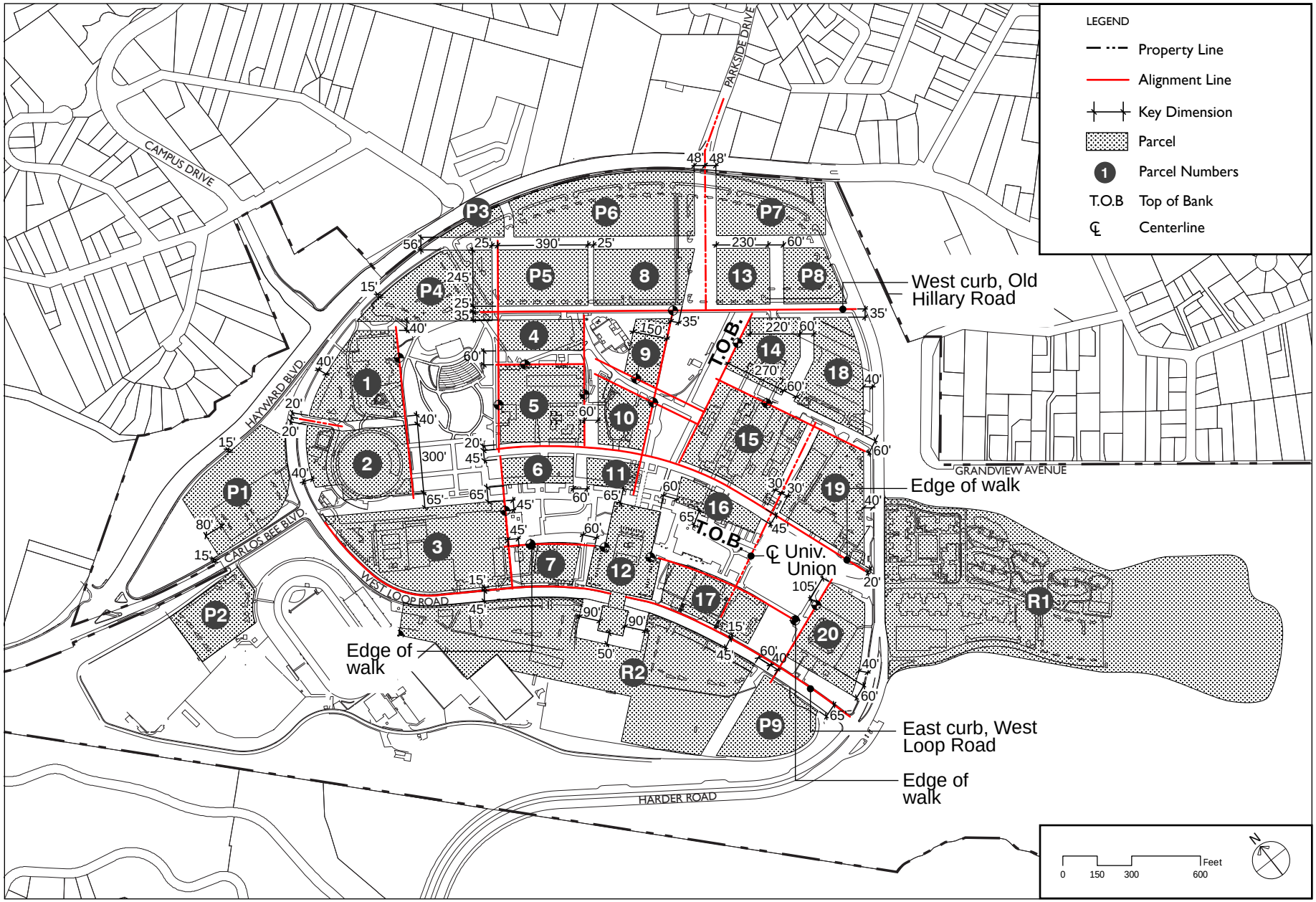


Table 11
Parcel Matrix

Parcel No.	Existing Use	Parcel Area (S.F.)	Parcel Area (Acre)	Existing Bldg GSF	Potential Use	Max. Allowable Floors Above Grade	Max Potential GSF	Total GSF Parcel Capacities
1	University Theatre / Robinson Hall	122,300	2.8	60,500	Academic / Admin	2	17,400	77,900
2	Music Building	125,400	2.9	86,735	Academic / Admin	5	302,500	302,500
3	Gymnasium	236,900	5.4	116,000	Academic / Admin (Recreation / Athletics)		0	116,000
4	Parking Lot J	50,400	1.2		Academic / Admin	5	203,000	203,000
5	Art & Education Building	127,000	2.9	116,097	Academic / Admin	5	0	116,097
6	Open Space / Circulation	35,900	0.8		Academic / Admin	3	78,900	78,900
7	Student Health Center	41,600	1.0	23,900	Academic / Admin	3	101,100	101,100
8	Parking Lot G	101,300	2.3		Academic / Perf Arts	5	237,000	237,000
9	SSRB / Childcare	41,500	1.0	101,430	Student Support		0	101,430
10	VBT Center	56,300	1.3	67,872	Academic / Admin		0	67,872
11	Open Space / Circulation	25,300	0.6		Academic / Admin	3	35,100	35,100
12	Library / Warren Hall	111,200	2.6	362,300	Academic / Admin		0	362,300
13	Parking Lot F	56,700	1.3		Academic / Admin	5	174,000	174,000
14	Open Space	76,800	1.8		Academic / Admin	5	314,500	314,500
15	Science Building and Corp Yard	164,500	3.8	209,328	Academic / Admin	5	120,000	329,328
16	Open Space	37,100	0.9		Academic / Admin	3	56,700	56,700
17	Student Union Complex	84,700	1.9	107,934	Student Support		0	107,934
18	Parking Lots E1 & E2	101,600	2.3		Campus Support	3	209,700	209,700
19	Student Services Hub / Parking Lot D	134,600	3.1		Student Support (Recreation / Athletics)	2	81,000	81,000
20	Meiklejohn Hall	100,400	2.3	111,662	Academic / Admin	5	293,500	293,500

Summary Existing	
Existing Academic	1,014,494
Existing Student & Campus Support	233,264
Core F.A.R.	0.4
Total Existing GSF	**1,363,758**

Summary Parcel Capacities		
New Academic	1,933,700	2,865,797
New Student & Campus Support	209,700	500,064
Core F.A.R.		0.9
Total New GSF	**2,224,400**	**3,365,861**

Table 12
Parking Parcels and Counts

Parcel No.	Existing Use	Proposed Parking		
		Structured	Surface	Total
P1	Parking Lot P	X		1,400
P2	Parking Lot N			190
P3	Parking Lots K & H		X	64
P4	Parking Lot K		X	400
P5	Parking Lot H	X		900
P6	Parking Lots H & G		X	745
P7	Parking Lot F		X	440
P8	Parking Lot F	X		500
P9	Open Space / Temp Parking	X		1,100
R1	Pioneer Heights	X		500
8	Parking Lot G		X	88
20	Parking Lot D		X	120
-	Misc. Campus		X	50
Total Parking Spaces		**4,400**	**2,100**	**6,500**

Table 13
Residential Parcels and Bed Counts

Parcel No.	Existing Use	Parcel Area (S.F.)	Parcel Area (Acre)	Existing Beds	Total Beds
R1	Pioneer Heights	872,800	20.0	1,292	3,000*
R2	Parking Lots A & B and adjoining open space	489,700	11.2	0	2,000
				Total Beds	**5000**

* Total beds for Pioneers Heights at full build-out includes the removal of Pioneer Heights I, to be replaced with higher density housing.

Table 14
Existing Building Heights

Building	No. Floors
Art & Education	3
Bookstore	2
Early Childhood Center	1
Health Center	2*
Library	3*
Music Building	2
Meiklejohn Hall	4*
Physical Education & Gym	2**
Robinson Hall	2
SSARB	4
Science	4*
University Theatre	1**
University Union - Old & New	2
Valley Business & Technology Center	4
Warren Hall	13
Pioneer Heights - Phase 1	3
Pioneer Heights - Phase 2	4
Pioneer Heights - Phase 3	4

* Includes full or partial basement level.
** Building height is greater than implied by floor count due to higher ceiling height for gym and theatre space.

Density of Future Development

Higher densities of development will be required in the future to ensure that the campus can in fact reach an enrollment of 18,000 FTES. Today the majority of academic buildings on campus are one to three stories. If the campus were to continue to build-out at these densities, there would not be enough land to accommodate planned growth.

The Hayward campus was largely constructed in the 1960s and 1970s. The original campus master plan (Figure 2) showed low scale buildings as well as clusters of high rise buildings for residential and academic uses. Of course, the only tall building on this plan that was built was Warren Hall. Since the 1960s when the campus was first opened, the nature of instruction and the facilities that might be required, as well as building codes, have changed dramatically.

It is not anticipated that any buildings on the Hayward campus, except perhaps a landmark vertical tower, will exceed 75 feet in height due to likely programmatic requirements and the additional code-driven construction costs associated with exceeding this height. Instead, as shown on the Parcel Matrix, academic buildings will likely range from two to five stories with floor heights averaging 15 feet; residential buildings may range up to six floors, averaging 11 to 12 feet per floor. These intensities of development will be required in order to preserve long-term flexibility for program and facilities that cannot be predicted at this time.

Phasing Plan

The accompanying plan (Figure 32) illustrates the anticipated first phase of new development at the Hayward campus. While it cannot be accurately predicted exactly when these projects will be completed, it is likely that the projects illustrated will occur in the 2009-2020 time frame.

Development of these projects is generally directed toward sites that are currently vacant or used for surface parking, and thus do not require the relocation or replacement of existing facilities. All projects occur in already partially developed portions of the campus: academic and related projects occur on sites within the core academic area of the campus; student housing projects will be added to the existing Pioneer Heights student residential area; and parking structures are added on vacant sites at the periphery of campus adjoining entry roads. Thus, projects are "infill" in nature, and will help to completely build out several areas of the campus, and in so doing significantly improve campus appearance and functionality.

The projects the University expects to undertake in the next decade include five types:

- Academic facilities
- Student housing and support uses
- Parking and entry road improvements
- Site and open space improvements
- Major utility improvements.

Figure 32
Phasing Plan

LEGEND

- Property Line
- Existing Buildings
- Projected Buildings 2009-2020
- A STEM Education Building
- B Performing Arts Center
- C Library / Learning Commons
- D Central Plant and Corp Yard Complex
- E Science Building-Major Renovation
- F Science Building Addition
- G Student Recreation & Wellness Center
- H Harder Road Parking Structure
- I Carlos Bee Parking Structure
- J Pioneer Heights Student Housing
- Projected Roads and Parking 2009-2020
- K New Loop Road and Entry Drive
- Projected Open Space 2009-2020
- L Entry Quad
- M Pioneer Heights Entry, Student Commons, and Main Pedestrian Promenade
- Future Buildings

Note: Letters do not suggest project sequence or priority order.

0 200 400 800 Feet

N

Academic and Instructional Support Facilities

STEM (Science, Technology, Engineering, Math) Education Building

This approximately 200,000 gsf state-of-the-art instructional building will replace the functions in the obsolete Science Building and will combine science and science education with laboratories and model spaces for student teachers learning to teach math and science based on applied research in successful pedagogies.

Science Building Renovation

Subsequent to the completion of the STEM Education Building the existing Science Building will be renovated for general instructional and departmental space.

Library/Learning Commons

This new facility will replace the existing campus library and support use of emerging learning technologies in the management of collections and archives as well as in support of teaching and learning online and face to face. The existing Library will subsequently be re-adapted for instruction and student services.

Performing Arts Center

This building will house music, theatre and dance programs and will provide appropriate teaching, learning, and practice space for students and faculty in these disciplines. Included in the facility will be a 1,000 seat performance hall.

Student Housing and Support

Pioneer Heights Student Housing Phase IV

This will be the fourth phase of the student housing program which will provide an additional 550 beds and support facilities. The complex will include up to four separate buildings, ranging in height from 5 to 6 stories, and will provide many of the amenities that were absence in the previous three phases. At the completion of this project on-campus housing will total approximately 1,850 beds.

Pioneer Heights Student Housing Phase V

This will be the fifth phase of the student housing program which will provide an additional -450 beds and support facilities. At the completion of this project on-campus housing will total approximately 2,300 beds.

Pioneer Heights Student Housing Phase VI

This will be the sixth phase of the student housing program which will provide an additional 420 beds and support facilities. At the completion of this project on-campus housing will total approximately 2,720 beds.

Parking and Entry Road Improvements

Harder Road Parking Structure

This parking facility will be located on the southwest side of campus and will provide 1,100 parking spaces. This project will be the first multi-level structure built on campus and will provide needed capacity as campus enrollment grows and surface parking lots are converted to building sites.

Carlos Bee Boulevard Parking Structure

This parking facility will be located at the north entrance of the campus, will provide an additional 1,400 parking spaces.

Hayward Boulevard Campus Entry

The new campus entry from Hayward Boulevard will be implemented at the same time as new facilities in this area of the campus. The entry would include intersection improvements at Hayward Boulevard, a landscaped entry road leading to the edge of the academic zone at Old Hillary Road. It will require reconfiguration of adjoining parking lots as well as a realignment of the East Loop Road.

Site and Open Space Improvements

Further description of concepts for open space and landscape improvements can be found in the Open Space and Landscape Framework section of this master plan.

Entry Quad Improvements

Concurrent with renovation of the Science Buildings and implementation of the Library/Learning Commons, final improvements to the Entry Quad will be completed. This will include improved wayfinding and signage, lighting, plantings, and furnishings to ensure an attractive new image of the campus as viewed from the visitors arriving via the new Hayward Boulevard Campus Entry.

Student Commons and Main Promenade Improvements

Improvements to the plaza space adjoining the new Recreation and Wellness building, the main walkway leading from that plaza through the middle of campus, and the large quad area below that which fronts on the new and old University Unions and Bookstore will be made to accommodate the vastly increased volume of students who will be arriving from Pioneer Heights and to support growth of student activities and events.

Major Utility Improvements

Central Plant

The central plant will be phased in during implementation of the new academic facilities. Located at the southeast corner of the academic zone, near virtually all the new buildings, the central plant site will also include a relocated and expanded building for facilities management and storage space.

Building Siting and Configuration

This section articulates basic building guidelines regarding siting and general configuration. Further design guidance is provided in a separate campus design guidelines document that will be used by designers, administrators, and a design review committee to influence future facility character.

Building siting and configuration - the way buildings are placed on their sites, the location of entries, building height, and the location of landmark buildings or features - all contribute to the image of the campus and the definition of campus open spaces. In addition, the orientation and arrangement of a building footprint is of tremendous importance in ensuring appropriate energy performance.

Building Siting, Configuration and Massing

The earlier sections of this chapter establish an orderly arrangement of building sites that defines circulation routes and open spaces as illustrated on the Parcel Plan (Figure 31). Placing buildings only within these sites reinforces campus geometries, accentuates the importance of the landscape as a unifying element of the campus, reinforces the clarity of the campus plan, and assists in wayfinding. The principles for siting and configuring campus buildings include:

- Locate buildings within the defined master plan parcels
- Avoid interfering with existing or proposed open spaces, views and pedestrian routes
- Within building parcels, use building form to frame secondary, building-oriented campus spaces such as entry plazas and courtyards.

(upper)
Buildings can be configured around large courtyards, as with Science where the two building wings flank a large outdoor space. This design strategy can increase opportunities for natural daylighting for classrooms and offices and can also provide wind protection for entries and outdoor seating.

(lower)
Buildings can frame small outdoor courtyards that can be used for studying, socializing or informal dining. (California Polytechnic State University, San Luis Obispo)

(upper)
Trees can be used to screen south-facing facades from direct sun.
(CSU Northridge)

(lower)
Clear glazing and narrow footprints allow natural daylight to penetrate occupied space, thus reducing energy consumption and enhancing interior character.
(Valparaiso University)

- Wherever possible, design occupied spaces for natural ventilation and day-lighting; orient buildings and internal spaces and facilities to take advantage of and control daylighting, passive solar and natural ventilation
- Limit or control extensive east and west exposures for passive solar control
- Provide a high level of transparency through extensive glazing, especially at ground level and at building entries
- Provide landscape materials consistent with the Landscape Master Plan to help shade buildings and open spaces
- Avoid blocking solar access or access to ventilating winds of adjacent buildings.
- Limit building width to allow natural ventilation and daylighting
- Provide internal courtyards or atria where narrow building footprints are not possible
- Avoid or mitigate unpleasant ground level wind
- Minimize building volume and surface area through compact / efficient building form.

Build-to Lines

The original plan for the Hayward campus had several clear organization constructs. Although much of it is no longer relevant (such as including multiple high-rise buildings for academic and housing use on site) the axial organization remains and can be reinforced. While that plan was successful in establishing linear connections, it was less successful in identifying adequate appropriately-sized quads for the campus. Subsequent development has actually succeeded in

rectifying this situation and it is the goal of this plan for further clarify and support the creation of extensive usable outdoor space in academic and residential areas. However, at this point, many of these spaces on campus are only partially defined, and could be lost or compromised if future development is not carefully placed.

The Build-to Lines diagram, Figure 33, based on the Parcel Plan (Figure 31), highlights the most important edges that will define key open spaces or pedestrian corridors.

- Buildings on parcels with primary, important edges will be designed to clearly orient toward the corresponding open spaces and to observe these edges.
- The majority of facades along these edges must adhere to this build-to line.
- Primary entries are also to be located on these facades.

Other secondary edges defined by the Parcel Plan are also important, and many will define secondary courtyards, quads and pedestrian corridors.

- Attention will be paid on all parcel edges to ensure that the indicated quads and walkways are clearly defined by shaping buildings accordingly.
- Rectilinear forms may be more successful in achieving this end that curves or other geometries.
- In some cases the building parcels can accommodate more than one building. In these cases, care must be taken to develop the sites at adequate densities to ensure the remaining area can still accommodate the full capacity of the site established in the Parcel Matrix (Table 11).

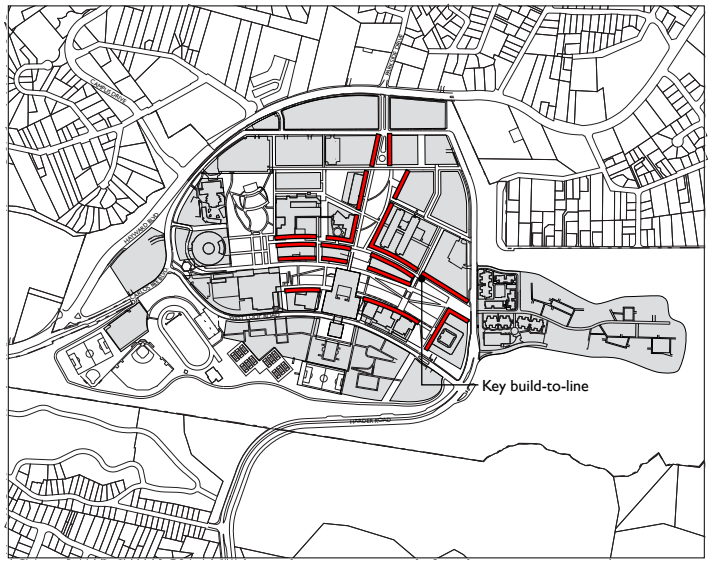


Figure 33
Build-to Lines

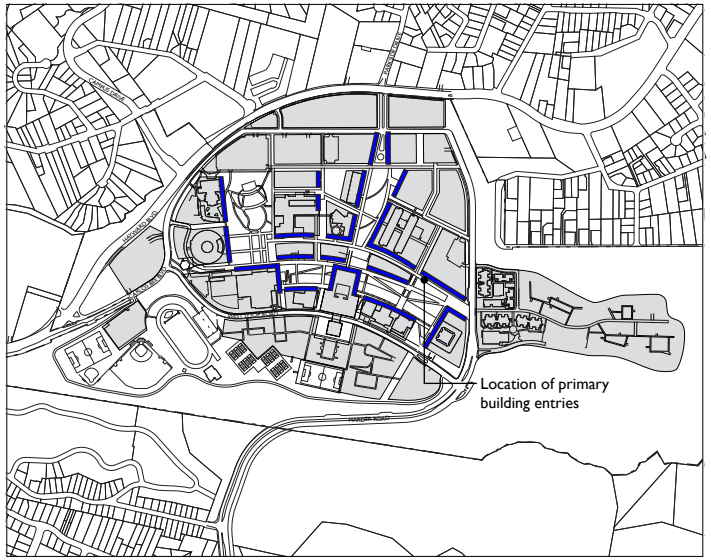


Figure 34
Building Entries

Clearly defined building entries aid in wayfinding and site organization. Entries should have elements such as overhead canopies, porticoes, double height spaces/lobbies, clear glazing and good lighting.

(right)
(UC San Diego)

(below)
(UC San Francisco)

Building Entries

Strategic placement of building entries reinforces the active nature of major open spaces and corridors, directing pedestrian traffic and providing places for waiting and socializing between classes. Focusing entries along these spaces ensures high levels of pedestrian traffic at all times and contributes to a sense of vitality, community and safety. The location of primary building entries is shown in Figure 34. The diagram indicates that primary building entries should be oriented to the adjacent open spaces and corridors.

- Entry locations will be determined by the building program and architecture as well as by the context of surrounding or facing buildings and adjoining open spaces.
- Primary entries must be fully accessible and correspond with accessible routes through campus.
- Other building entries will be located where necessary for building design, program and code requirements.
- Service areas and loading docks will be located away from pedestrian routes and major building entries to avoid conflicts, noise and visual clutter.

Landmark Sites

Once Warren Hall is renovated, the campus will lose its current landmark building. Several sites provide an opportunity to build new iconic, landmark structures with high visibility for visitors and the campus community. These sites are associated with campus arrival points and significant campus open spaces, as indicated in Figure 35.

- New Campus Entry Sites (Parcels 8 and 13) will be located at the primary visitor entry to the campus upon implementation of the new entry from Hayward Boulevard. Adjoining the Entry Quad at Old Hillary, these sites are prominent, and would be excellent candidates for uses that would attract the Hayward community – performance, arts or other similar uses. These site would be particularly suitable for uses that will attract significant local or regional interest, such as performance or arts venues.
- Parcel 14 occupies the corner of Old Hillary Road, the east entry quad and the Hayward Blvd. entry, providing an opportunity for image-making architecture upon arrival from the east side of campus. Building design should provide solid, monumental facades facing Old Hillary Road, the east entry road and the quad. This site, located adjacent to the new Central Plant, would be suitable for a new Library or Science, Technology, Engineering and Management Education building.
- "Core site." This site is located at the intersection of view and pedestrian corridors and can be seen from many points of view. While its is too small for academic use, it would be an excellent site a vertical landmark – campanile, carillon or clock tower - of sufficient height to be viewed from some distance

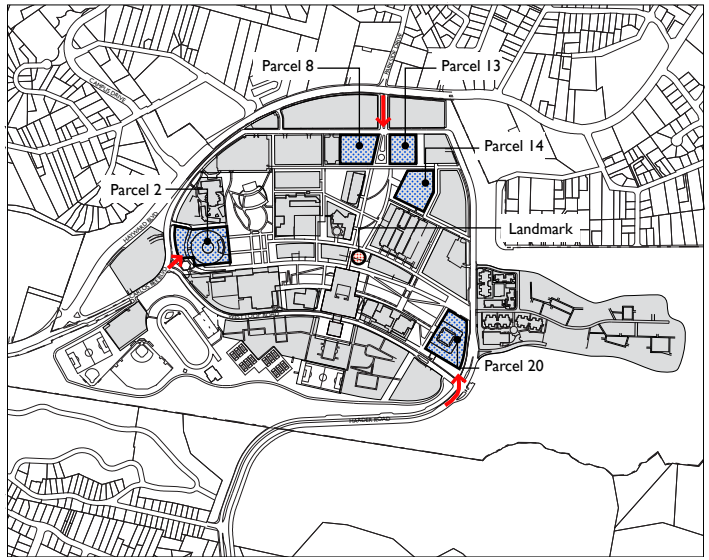


Figure 35
Landmark Sites

Landmark elements, such as a traditional tower (above) or more modern campanile (right)
(above: UC Riverside; right: Valparaiso University)

would be appropriate. Any structure should includes stairs and elevator to assist in connecting adjoining lower and higher elevations nearby.

- Parcels 2 and 20 are the first sites visible upon entry from Carlos Bee and Harder Road, and provide an opportunity for image-making architecture. Building design should incorporate prominent form elements and transparency facing the entry roads or parcel corners.

Orientation of buildings to control heat gain and to allow the efficient use of screening and shade devices will cut energy consumption. In the case of a screening arcade, the resulting space can be a gathering space as well. (UC Merced)

Sustainable Design and Climate Responsiveness

As described in the Sustainable Campus Framework chapter of this master plan, the Hayward campus is committed to reducing natural resource consumption and associated emissions. Since the construction and operation of campus buildings contribute a large percentage of this consumption, a variety of strategies will be employed in the design of new buildings and retrofitting of existing buildings to achieve the Sustainability goals.

The campus is blessed with a climate that allows nearly year-round use of appropriately designed open spaces and buildings that integrate interior and exterior space. Campus building design will take full advantage of a wide spectrum of climate-responsive approaches that provide human comfort and functionality year-round.

Buildings often must satisfy multiple demands, ranging from basic program functions to defining high quality open spaces to campus image-making. Achieving a high level of sustainable design will be considered another equal design parameter. Climate-responsive design begins in the planning phase of a project and extends into the daily use of the completed building. It must also extend beyond this in providing the setting and means for educating and inspiring future generations to understand and implement sustainable practices throughout their lives.