



Peralta Community College District
DEPARTMENT OF GENERAL SERVICES



MERRITT COLLEGE

FACILITIES MASTER PLAN



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INTRODUCTION



LETTER FROM THE PRESIDENT

In 1964, the Merritt College Campus was established as a comprehensive college offering vocational, occupational and liberal arts courses by the newly formed Peralta Community College District. The following year, voters passed a \$47 million bond issue which funded the relocation of the college to its current beautiful site in the Oakland Hills. In 2006, voters approved the funding of a \$390 million bond (Measure A) to renovate classrooms and modernize facilities.

The College and District have recently completed Educational Master Plans which underscore the effective work we have done in educating students in our community. As we plan for the next two decades, this Facilities Master Planning Study clearly demonstrates that in order to improve our effectiveness in preparing students for the future, our facilities and infrastructure require classrooms and technology which provide flexible and active learning spaces supported by modern methods of educational technology applications.

We are excited to have the voters support and resources available to begin the implementation of the major recommendations set forth in this plan:

- A new Merritt College Center for Sciences and Allied Health
- A prominent main entrance to the campus creating a “sense of place” to our community
- A central gathering place as the heart of the campus where students can experience true campus life

In addition, as this plan details, you will see how this document supports our educational values and mission as detailed in our Educational Master Plan. It also builds upon the investment our community has afforded to us in providing quality and responsibly managed facilities for the education of our students. Along with this support comes the responsibility to invest in environmentally sustainable development opportunities whenever possible.

We appreciate your continued support of our college’s mission, vision and goals to create learning experiences that stimulate intellectual curiosity and empower students to communicate effectively, think creatively, and embrace their potential to become the future leaders of our interconnected global society.

A handwritten signature in black ink that reads "Robert A. Adams". The signature is written in a cursive, flowing style.

Robert A. Adams, Ed.D.
February, 2009

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PURPOSE OF PLAN

Over the past two years, representatives of Peralta Community College District faculty, staff and administrators at the Merritt College have undertaken a series of master planning activities. The results of these activities have produced significant information and include the following planning documents:

- District Strategic Plan
- Educational Master Plan for the College of Alameda
- Integrated Educational and Facilities Master Plan for the District and the College
- Facilities Master Plan for the District and the College

The 2008 Educational Master Plan was developed over the past twelve months with contributions from an educational team consisting of the administration, faculty and staff of Merritt College. The final document was completed by the same educational team with formatting assistance from consultants.

The 2009 Merritt College Integrated Educational and Facilities Master Plan provides specific direction and parameters for the implementation of programs and activities relating to the educational, support service and facility programs of the College. The Plan is meant to be the “bridging document” between the Educational Master Plan and the Facilities Master Plan for Merritt College.

The purpose of the 2009 Merritt College Facilities Master Plan is to integrate the results of the aforementioned planning documents into a visual and quantitative representation of facilities needed to support the comprehensive planning efforts of the College through the year 2022. The Plan provides direction for improving the College’s facilities and is a dynamic document, flexible enough to adjust to new space requirements and potential instructional needs, while at the same time, providing parameters for future development of the campus.

The 2009 Merritt College Facilities Master Plan has its roots in both qualitative input and quantitative data. This data derives from a physical assessment and analysis of: the college facilities, existing utility infrastructure, sustainability goals, energy conservation goals and educational operation needs.

As previously discussed, the Plan is also based on a series of planning efforts emanating from the faculty, staff and administrators at the College. The Plan is grounded in, and supports, the instructional and support services provided by the College with the intent being that the proposed facilities will provide for a quality learning environment for all segments of the College.

Recommendations from the Educational Master Plan and also the Integrated Educational and Facilities Master Plan were used to forecast the facility needs for the College through the year 2022. As part of the planning process, smaller stakeholder meetings were held with the College to gain additional insight regarding facilities from faculty, staff, neighborhood community groups and students; to ensure input from the user community.

During these meetings, information extracted from the smaller stakeholder, educational and financing meetings in the planning process, was shared with the stakeholders via the Town Hall meeting; with the intent being to validate how this information translates to facilities. Using this input, the Architects then developed a draft Master Facilities Plan for the campus along with appropriate quantification of space requirements and presented to all stakeholders for their review. The final Facilities Master Plan for the Merritt College is the result of this process.



PLANNING CONTEXT

EXISTING CAMPUS OVERVIEW

Merritt College is located at 12500 Campus Dr.; in the Oakland Hills district of Oakland, CA a few miles from the historic "Mormon Temple" landmark. It is bordered by topographic bluffs on two sides and the Campus Drive roadway.

Merritt College campus differs from its Peralta urban college neighbors, as it is nestled in a beautiful landscapped hilltop location, with breath taking panoramic views. Although only a few minutes from downtown Oakland by automobile, it is a comparatively remote location for students.

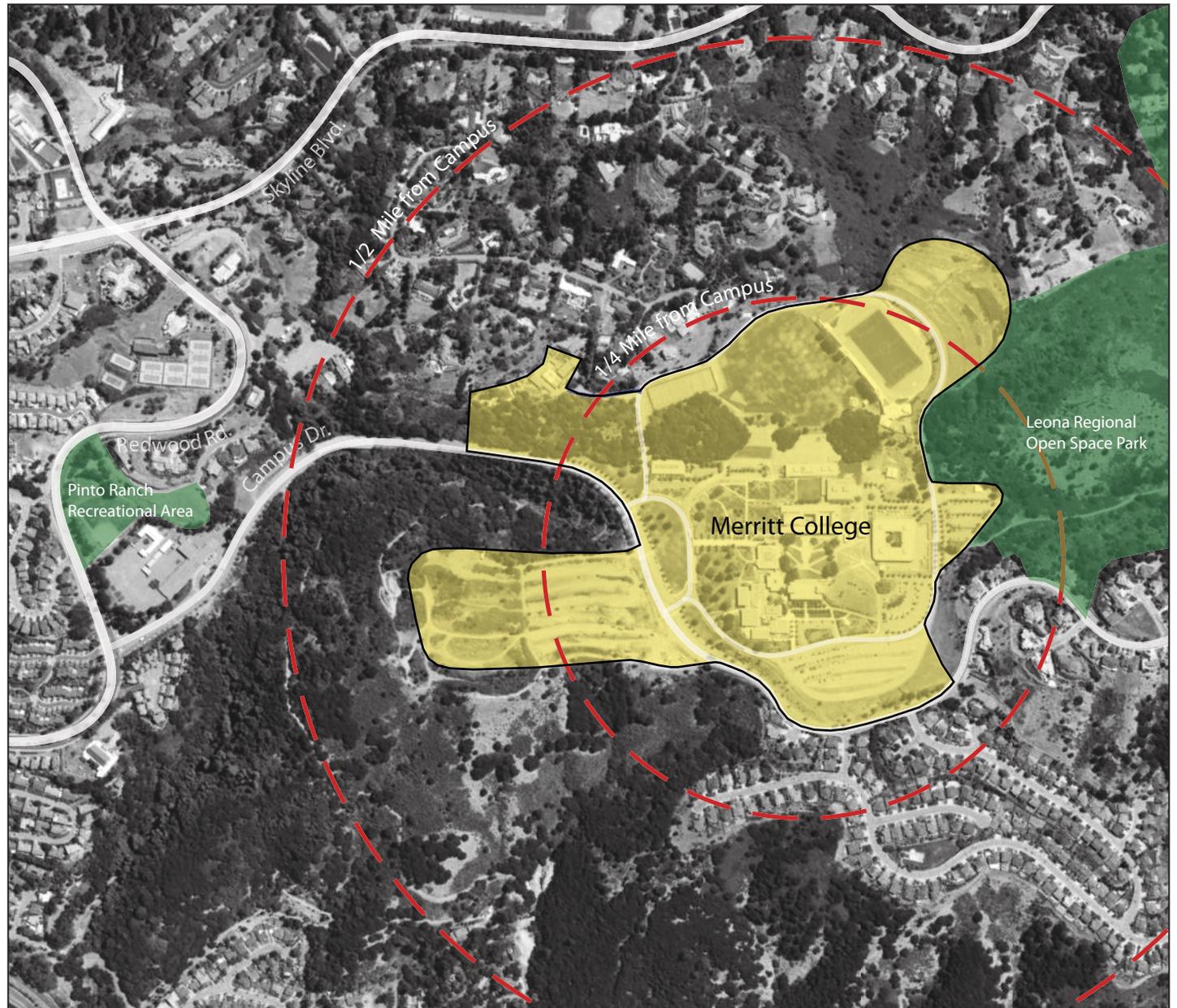
Due to its comparatively steep and remote location, college identification, safety and security, wayfinding, transportation by students; are primary concerns when addressing the needs of the campus environment.



Views at campus vistas

CAMPUS NEIGHBORHOOD ADJACENCIES





NEIGHBORHOOD ADJACENCIES

EXISTING CAMPUS OVERVIEW

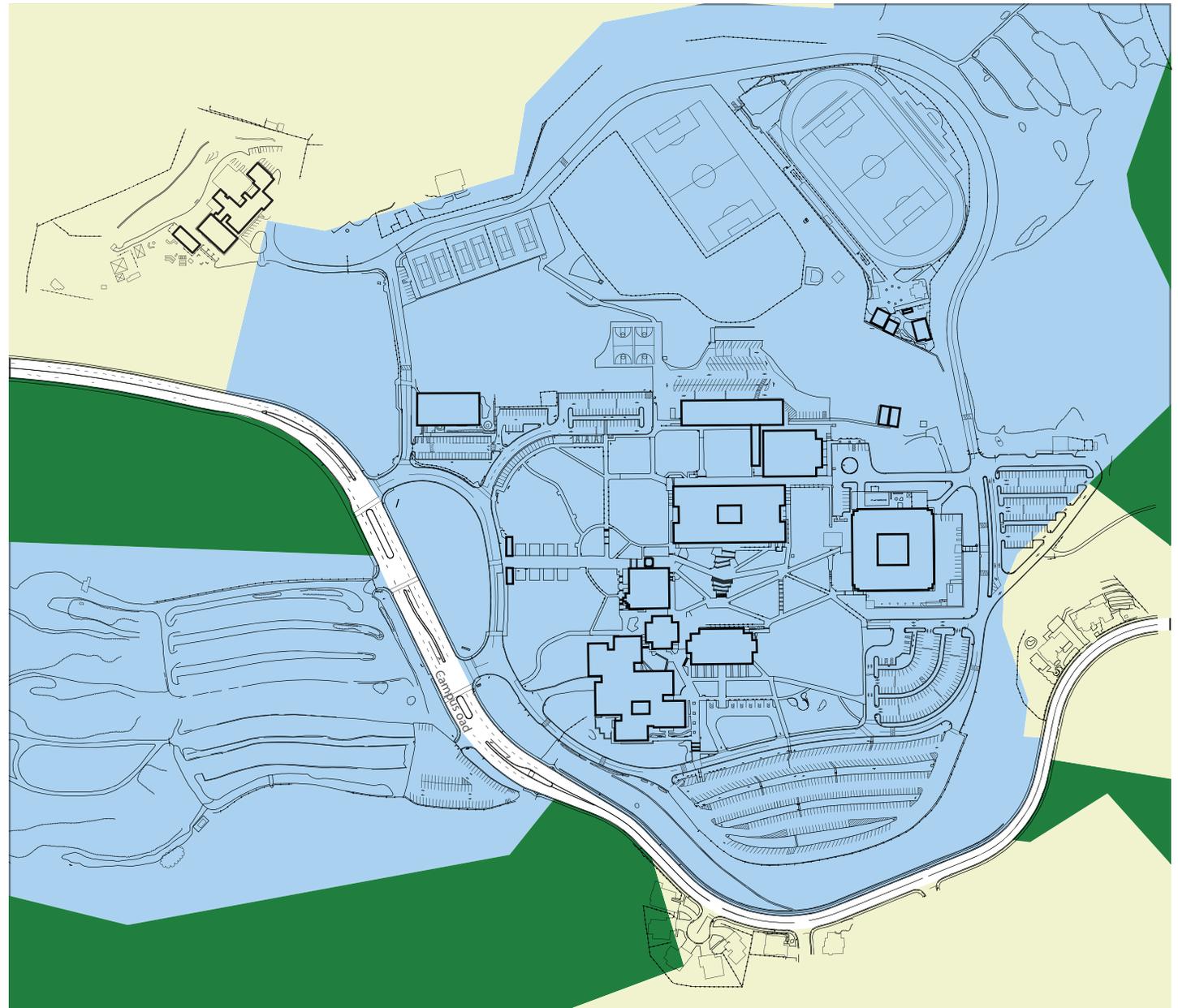
The college has an institutional Oakland City Planning zoning classification. It is immediately adjacent to the Leona Regional Open Space Park. Immediately to the North-East, the college is adjacent to a Residential Single Family One-Acre zone. Immediately to the South is a Residential Single Family zone.

NEIGHBORHOOD ZONING



Views of adjacent neighborhoods





LEGEND

- Hillside Residential
- Resource Conservation Area
- Institutional

EXISTING CAMPUS OVERVIEW

The campus is home to eleven (11) permanent buildings and two (2) grounds-sheds for a gross square footage of 345,208 sq. ft., on 130.0 acres. A summary diagram of the buildings are included. The buildings are constructed primarily of precast concrete and was built from 1968 to 1978.

The precast concrete buildings are centrally located on the campus and grouped in clusters with a ring of landscaping, ball fields, tennis courts, and parking lots surrounding them.

The campus has ample parking, however, adjacent to Parking lot B, the property extends another 32 acres.

CAMPUS BUILDINGS



Rear of Library from Quad



Entrance of Library at Plaza



Stairs at edge of Library to upper Plaza

CAMPUS BUILDINGS

EXISTING CAMPUS OVERVIEW

- A Art, A/V, CDC, Fitness Center, Music, Classrooms
- D Allied Health, LRC, Math Labs, Computer Labs, Academic Center, Classrooms
- E Gymnasium
- F Locker Rooms, Faculty Offices
- H Landscape Horticulture
- L Library, Museum, Learning Resources
- P Classrooms, Computer Labs
- Q Administrative Offices
- R Student Services, Cafeteria, Bookstore, Police
- SRH Self-Reliant House



EXISTING CAMPUS BUILDINGS

Merritt College has the following general categories:

- Academic - instructional facilities such as classrooms and labs.
- Academic Support - such as libraries, computer labs, audio-visual, and learning centers.
- Student Services - such as health services, counseling, support for student development and financial aid.
- Administration - supports district management, staff, and community relations.
- Athletics and Recreation - such as athletic tracks, soccer and baseball fields, and gymnasiums.
- Parking - staff and students.

The site plan shown describes the various uses on the campus. You will notice the athletic facilities to the North of the campus. The classroom buildings are located at the center of the property. The administration building is currently located adjacent to and just to the West of the classroom buildings.

The classroom building location does not adequately define a central space for the Students. Instead, the campus appears to sprawl just beyond the student services building. The Horticultural building must have a bit of autonomy due to the nature its curriculum.



Student Center



Library



LEGEND

- Academic
- Academic Support
- Student Services
- Administration
- Sports Field and Facilities
- Other
- Parking



EXISTING CAMPUS USE AND FACILITIES

EXISTING CAMPUS OVERVIEW

WLC conducted a physical assessment of the landscaping, subsurface and building infrastructure, the buildings and parking areas; to determine the physical condition of the college. WLC then analyzed the existing facility and building data for life cycle maintenance considerations.

However, the assessment data had to be analyzed with the educational program data to determine if the buildings could accommodate the educational program needs. A building could be maintained but fail to meet the demands of the educational curriculum and would receive a lower mark because it would require additional space or extensive modernization.

The building condition ranking scale as shown uses a color scheme to depict the current state of the building with a range of excellent to bad.

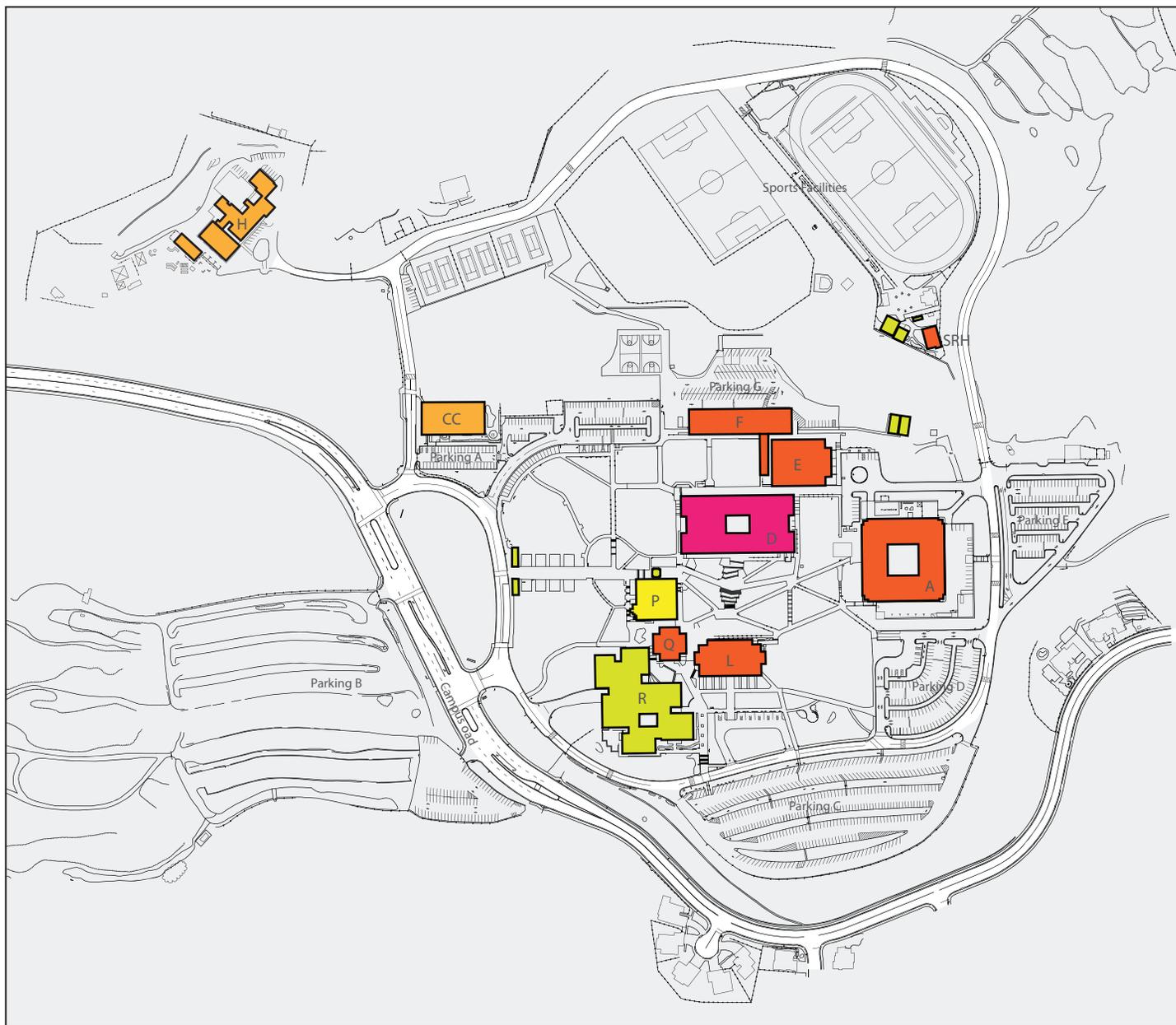
FACILITIES ANALYSIS CONCLUSIONS



Steps down into quad area at Library



View from Student Center Plaza



BUILDING CONDITION RANKING SCALE

10	EXCELLENT
9	
8	
7	
6	
5	
4	
3	
2	
1	BAD
	NOT ASSESSED



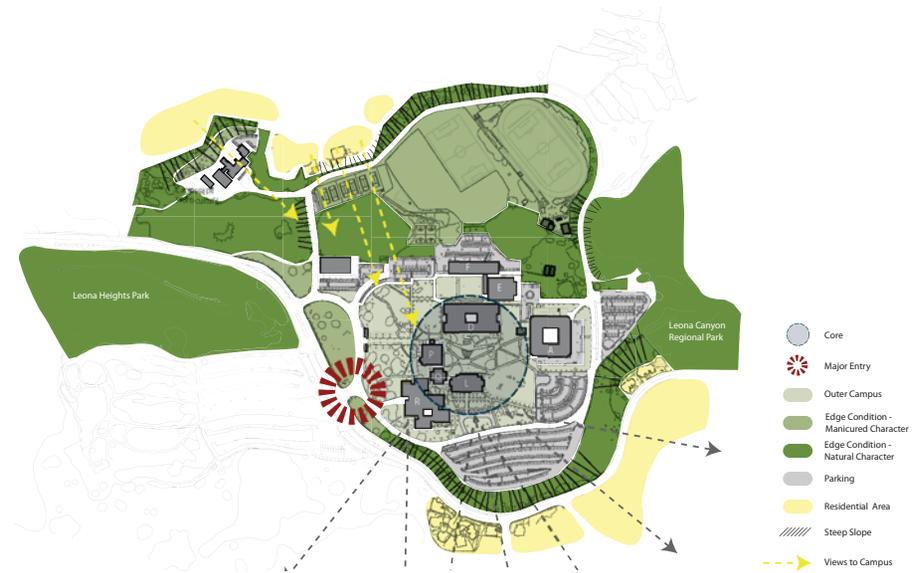
EXISTING BUILDING CONDITIONS

Adjacent Connections

Merritt College is in a remote location in the Oakland hills, accessible by bus and automobile. Therefore, pedestrian and bicycle access is not a primary concern. The bus stop is a prominent feature of the campus entrance, conveying a strong connection to the public transit system. At several vehicular approach points along Campus Drive, signage and wayfinding cues are inadequate. It is unclear when one has entered the campus, and there is a confusing point when one passes the main entrance en route to Parking Lot C.

Adjacent land uses include housing and open space. Housing to the south and west of the campus is buffered by topography (i.e., the housing is at a lower elevation than the adjacent campus), while housing to the north and east is intrusive to the campus character because of the topography (i.e., the houses are elevated above the campus).

Connections to the regional trail system are not marked. Opportunities for expanded connections exist.



Campus Context



Existing Bus Stop



Connection from south parking lot



Minimal wayfinding signage



Connection from east parking lot

Connection and Gateways

The entrance sequence to the campus for drivers is confusing. There is not adequate signage on Campus Drive, and it is unclear where one enters the campus and leaves the city. Connections and entry experiences between the campus proper and the parking lots to the south and east are weak.



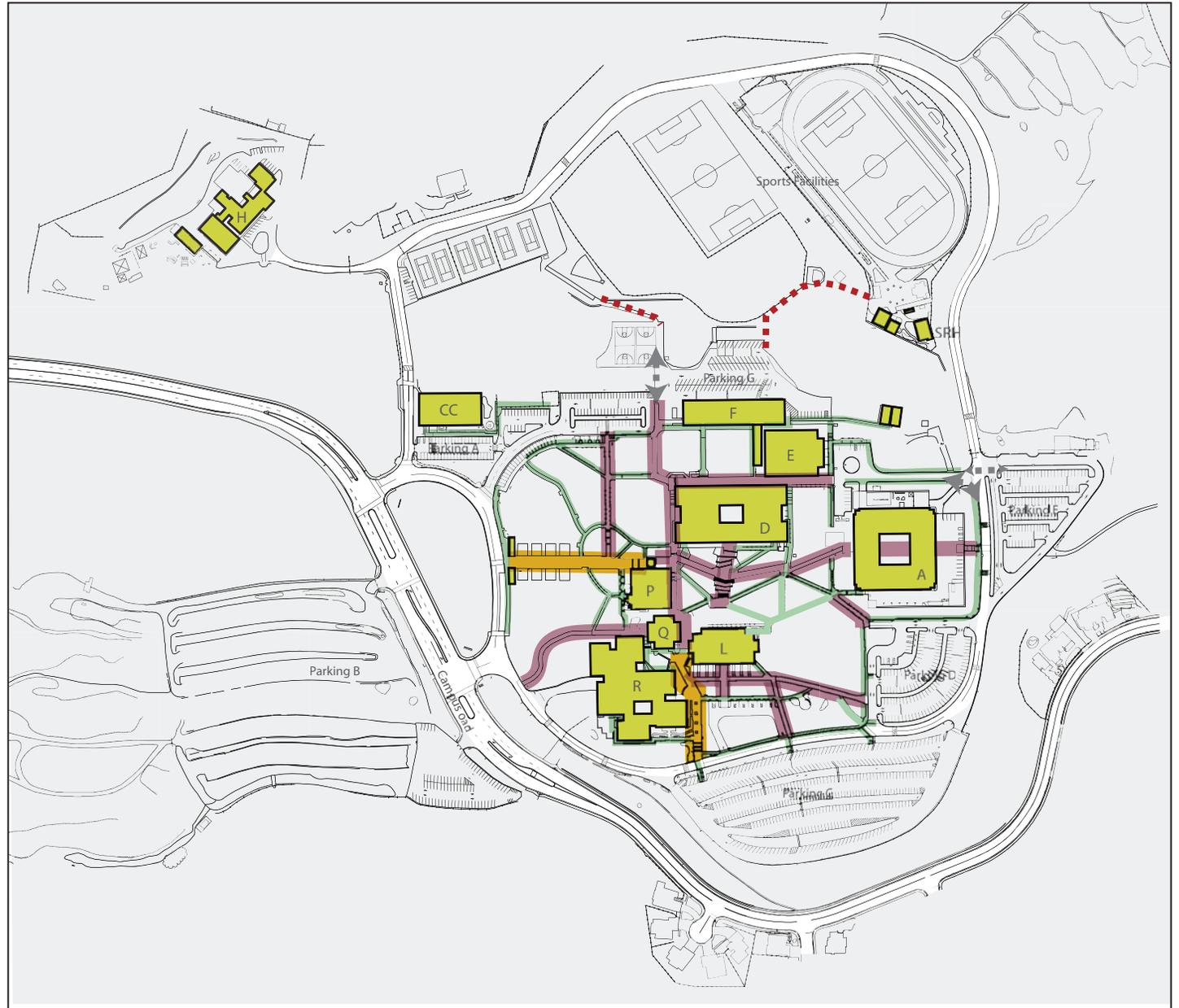
Pedestrian Circulation and Access

Accessibility presents a significant challenge because of the hilly topography of the campus. For the most part, this challenge has been met, with adequate accessible routes throughout. Significant violations of accessibility code requirements are found throughout the campus, but these consist primarily of inadequate handrails at staircases. Where accessibility requirements are met, the character of many routes is compromised by the use of utilitarian handrails in places where the rerouting of pathways to meet slope requirements would be a more elegant solution.

Paved pedestrian routes are lacking in several areas, and “desire lines” are cut through planting areas. These dirt pathways make it clear where redesign of the pedestrian circulation routes are necessary. Pedestrian connections between parking lots and the campus are lacking.



Pedestrian circulation routes



- Major
- Moderate
- Minor
- Missing or Unpaved
- Unaccessible

0 100 400 feet



Vehicular Circulation

The vehicular circulation system at Merritt College consists of a series of parking areas that are connected by a single Campus Loop Road that surrounds the majority of the campus; a smaller loop at the main entrance that feeds several smaller parking lots within the campus and provides access to both ends of the main Campus Loop Road; and an extension and parking lot off of the Campus Loop Road that access a Horticultural Center in the northern corner of campus.

- Several lots and street sections have damaged pavement, there is also insufficient street lighting, accessible facilities that do not meet current Americans with Disabilities Act Codes, damaged or blocked surface drainage facilities and deteriorating pavement.
- There is inadequate fire access around the Horticultural Center.
- There is an awkward secondary vehicular circulation condition that has been improvised over time in the parking areas between the Children’s Center and existing Building A.
- Some of the parking lots are being resurfaced which improves the look of the parking areas, but many of the underlying problems still exist.



Vehicular circulation system

-  Vehicular Access Route
-  Service and Emergency
-  Campus Entrance and Exit
-  Exit
-  Parking
-  Unpaved Area Used by Vehicles

0 100 400 feet



SITE TOPOGRAPHY

Site Topography

Merritt College is an extremely hilly site. This creates challenges with accessibility and the ability to site new structures, but it also brings great opportunities to take advantage of the views and the beauty of the natural environment throughout and around the campus.

The existing layout and orientation of the campus do not adequately use the site's topography to its best advantage.

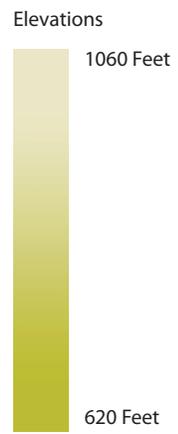
The existing buildings do not capitalize on the views of the bay or the surrounding hillsides. These are wonderful assets that the site can use to attract students and the community to the campus.



Views from within campus looking out at the adjacent hills.



SITE TOPOGRAPHY



LEGEND

■ Buildings



SITE TOPOGRAPHY

Landscape Character

The campus character is defined by its location on a hill separate from the fabric of the city with distant views and framed by a natural landscape. This character is compromised where the adjacent natural landscape is interrupted by nearby houses that are not screened from the campus. Approximately half of the campus is in good condition with recent planting of native and Mediterranean drought-tolerant plants and recent paving and furnishings upgrades, while the other half of the campus is in serious disrepair with bare soil and paving in poor condition. The sense of an overall campus framework is compromised by disorganized and undefined landscape spaces and pathways.



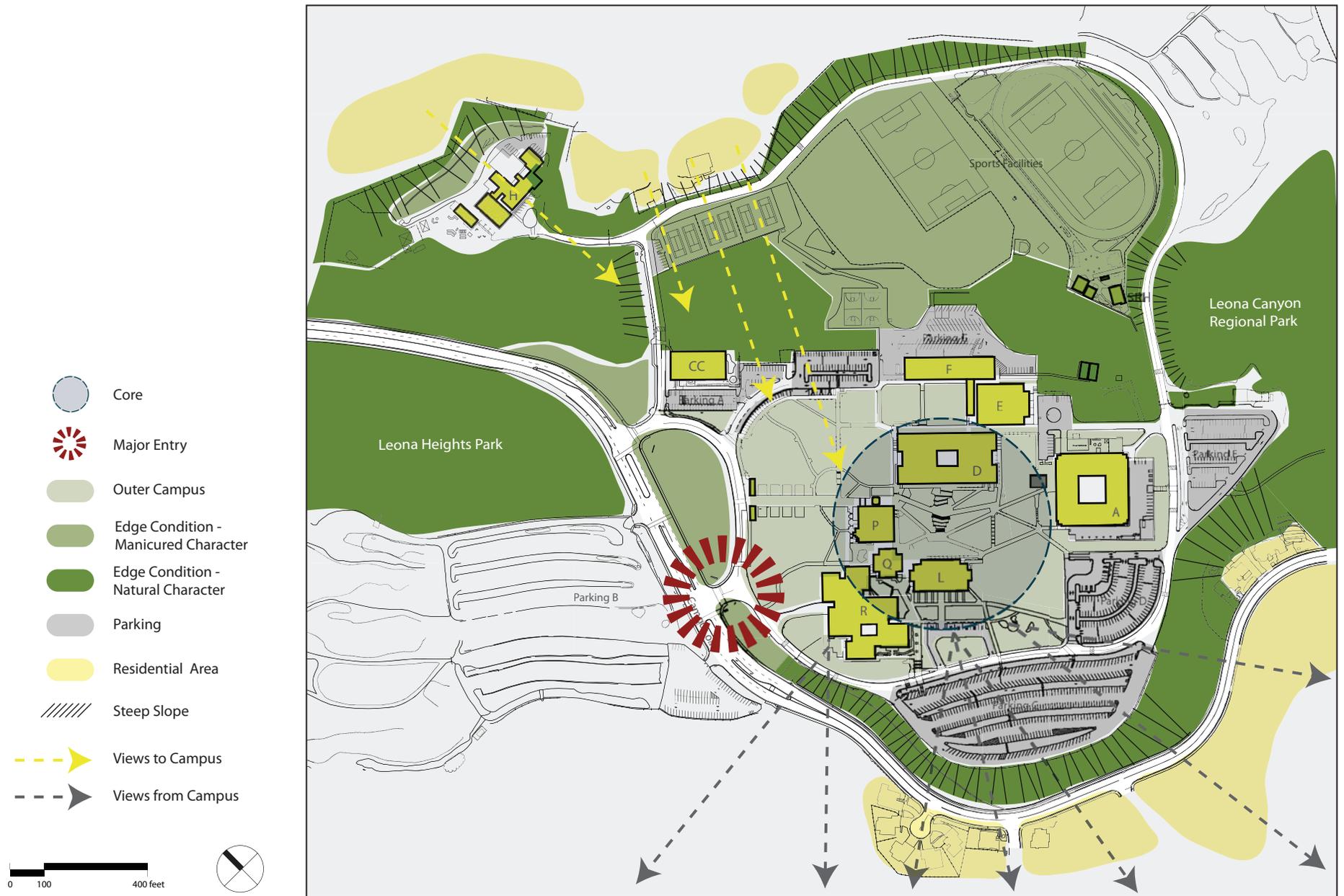
Recent site renovation



Adjacent natural landscape and houses



Native, Mediterranean drought tolerant plants



CAMPUS CHARACTER

Open Space Program

The open space program includes several plazas and courtyards associated with the buildings and a large central quad. Many of these outdoor gathering areas lack seating and other amenities that would make them more usable.

The northern half of the campus comprises the sports facilities, including a large field, basketball and tennis courts and a soccer stadium. Many of these facilities are not accessible due to the grade change. The basketball courts are in disrepair and the large field is in poor condition.

The horticulture department, separate from the main campus, includes nursery facilities and planted areas that are used as outdoor classrooms.



Lack of gathering area in Quad



Entrance to back area of Horticulture Center



OPEN AREA AND RECREATION FACILITIES

Planting

Newly planted and well-maintained areas of the campus are in good condition and add to the campus character. Low-water-use plants have been used to an excellent aesthetic effect. These areas set a positive precedent for future planting improvements.

Several large areas of the campus lack planting and have exposed soil, most notably between Buildings D and A and east of Building L. These areas detract significantly from the campus character and cause erosion and sedimentation problems.

All London Plane trees throughout the campus have been topped. This is unsightly, damaging to the health of the tree, and may cause unsafe branching conditions.

The athletic fields are damaged by unauthorized use by non-student groups. Additional fencing may be needed.

The horticulture grounds contain diverse and valuable specimens.



New planting with low-water-use plants



Lack of planting



Topped London Plane trees



PLANTING CHARACTER

Furnishings

The new stainless steel bench provides a positive precedent for high-quality furnishings throughout the campus. This precedent is not followed through the other types of furnishings. Most notably, trash receptacles are of inconsistent design and placed haphazardly throughout the campus. There is a lack of seating in the northern part of the central quad, near Building L.



New stainless steel bench and trash receptacle



New stainless steel bench and trash receptacle



Rack of seating

Lighting

New fixtures enhance the campus character and act as gateway elements. These set a positive precedent for future light fixture replacement. Currently, however, light fixtures are of inconsistent design throughout the campus. Several old fixtures are in disrepair, notably in the central quad, where wall-mounted fixtures have been used to replace pole-mounted fixtures that are in disrepair.



New entry plaza light



Old pathway light

Paving

Newly paved areas are in good condition, and include some character-enhancing elements such as varying finishes and inlays. These provide a positive precedent for the campus; however types, conditions and ages of paving are inconsistent throughout the campus. The older paving does not reinforce distinctive zones or enhance the campus character. In some places in the central quad, cracking has caused tripping hazards, but in general, the quality of the older paving is not a safety or accessibility issue.

Irrigation

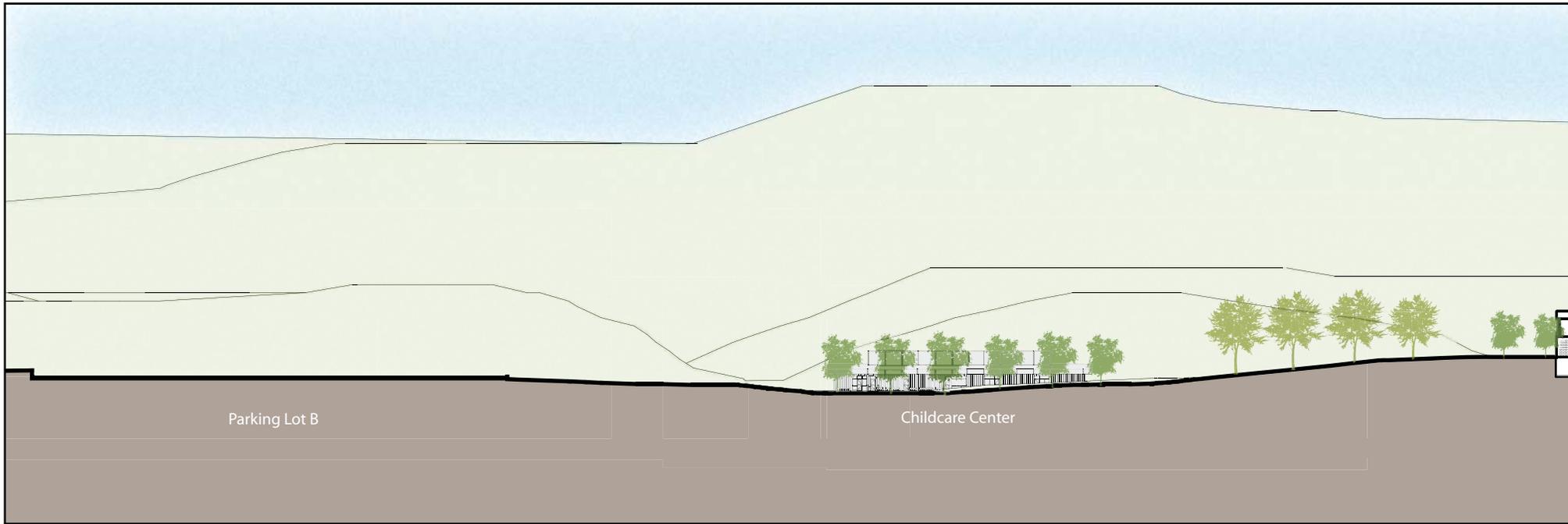
A central controller has been installed, but mainline master valves and flow sensors common to such a system are not installed due to high cost of installation in local rocky soil. Mainlines, lateral pipes and spray heads in many parts of the campus are old and in disrepair.



New concrete paving at plaza



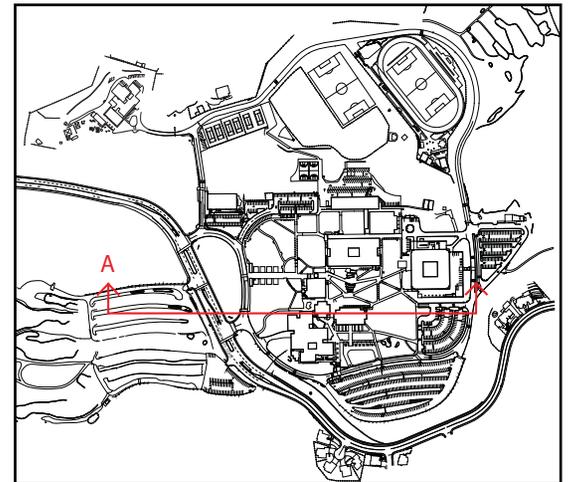
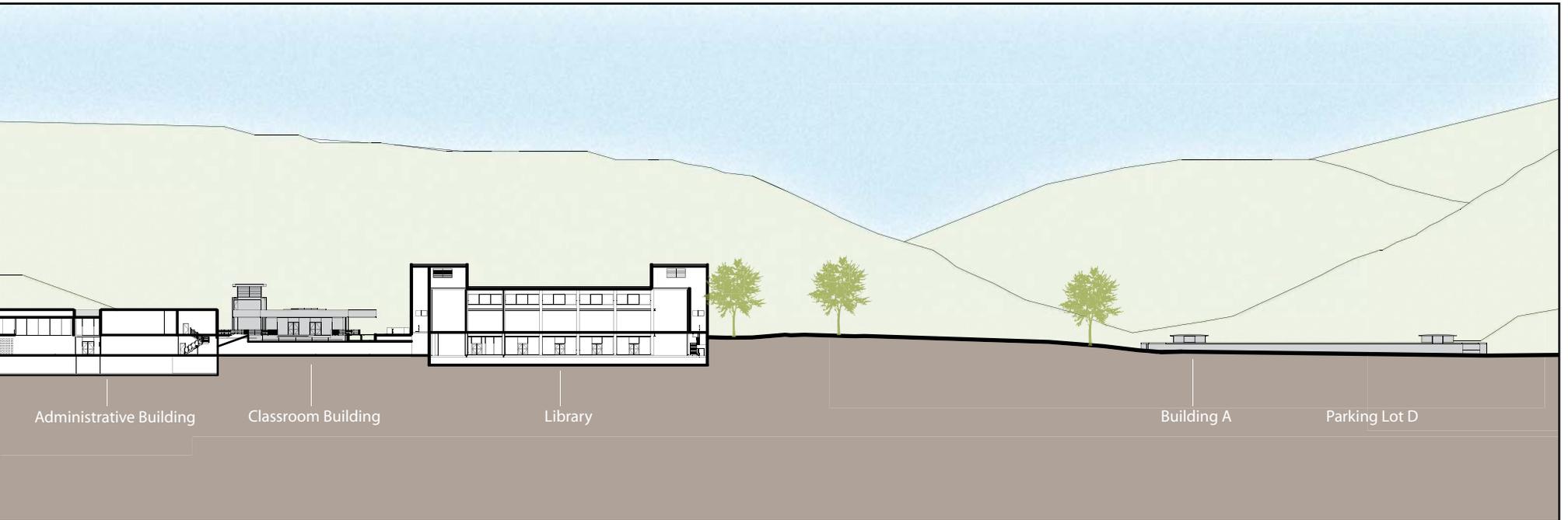
Tripping hazard

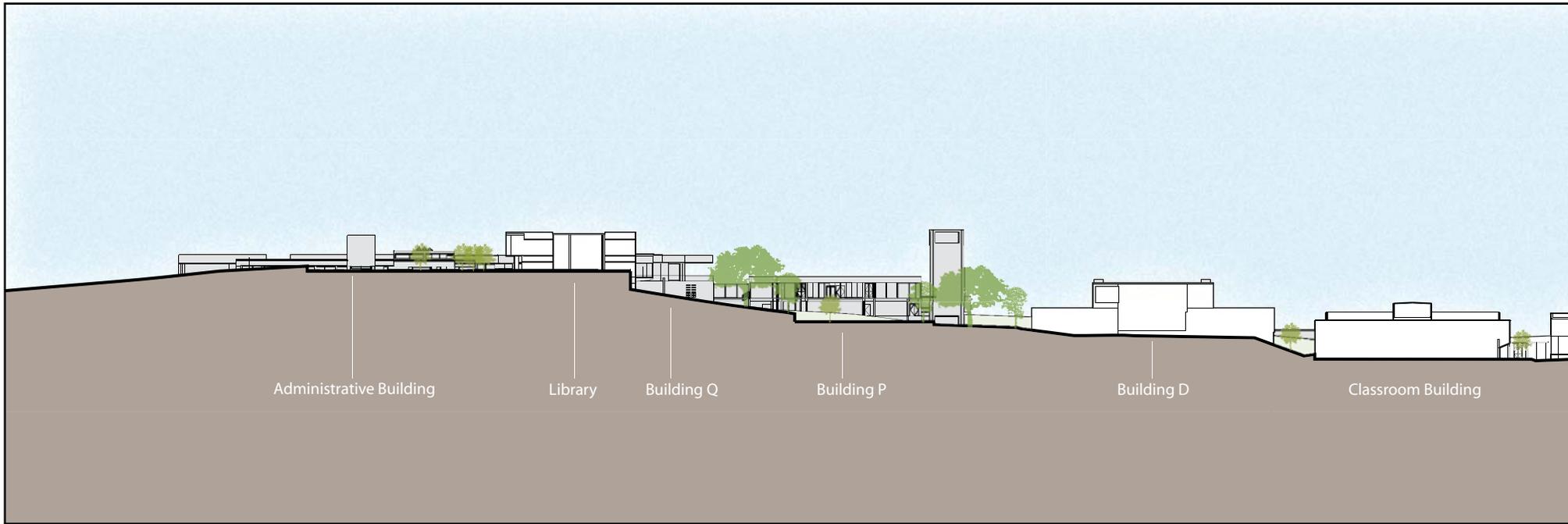


EXISTING SECTION A



The following site sections provide a picture of how the campus buildings and site relate to one another. The sections cover two pages and the area that is cut is shown in the lower right hand corner of the second page.





Administrative Building

Library

Building Q

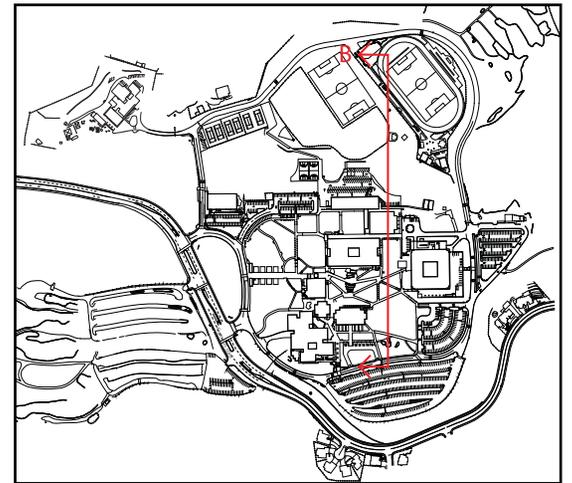
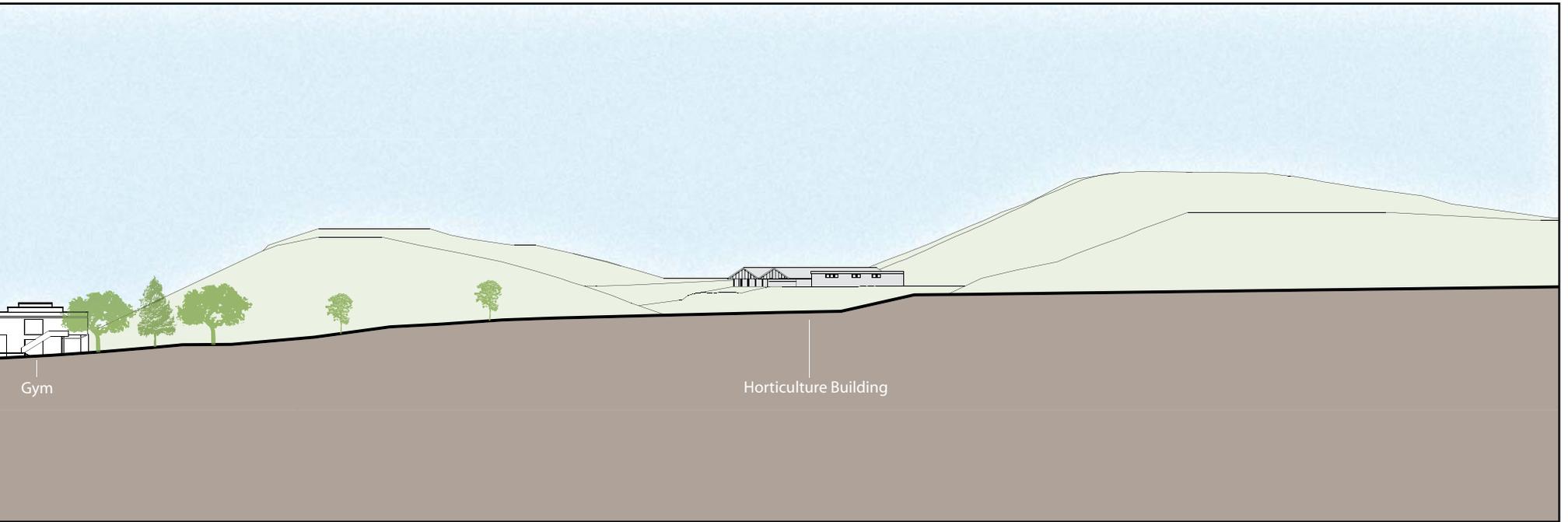
Building P

Building D

Classroom Building

EXISTING SECTION B





The entire master planning process is predicated on developing a long-term plan (through the year 2022) for facilities that supports the proposed instructional programs and support services that will be provided by the College at that time. The basis of this information is the 2008 Educational Master Plan for the College and the 2009 Integrated Educational and Facilities Master Plan for the College. These two documents along with the background documents that were used to generate them, when taken in total, provide the qualitative and the quantitative educational and financial information upon which the Facilities Master Plan for the College is based.

Enrollment Projections

Existing Curriculum

The current programs of instruction (fall 2007) are characterized as follows:

- Unduplicated, credit-enrollments of approximately 7,233 students
- WSCH—Credit weekly student contact hours of 59,591
- FTES—Full-time equivalent students of 1,986 for a given semester.

This “baseline” will be used as the initial benchmark for forecasting future capacities of the College. The existing program of instruction provides a starting point against which future growth can be forecast. Looking ahead for the next five years, curricular content will most likely not undergo wholesale changes or deviate far from where it is today. The existing program of instruction, therefore, provides a solid foundation from which the future program of instruction can be determined.

The Internal and External Elements of the College

In order to develop a growth model for the future program of instruction at the College, the consulting team paid close attention to the knowledge gained and input assimilated via the College’s Educational Master Plan. The team also utilized the internal and external environmental scans prepared by Chuck McIntyre. Additionally, data from the Maas Database was used for the forecasting process and ultimately, the calculation of future space needs.

Weekly Student Contact Hours WSCH)

Changing trends on community college campuses across the state have often had the effect of creating higher levels of student enrollment but decreasing the amount of time that a student spends on-campus using the facilities. The gauge for measuring the need for space has shifted accordingly. Where institutions once used enrollments to measure future needs for facilities, today’s measurement centers around the number of hours that a student spends on campus pursuing his/her education. This measurement is referred to as contact hours, the number of hours a student is engaged in the program of instruction at the institution.

This is the only measurement that accurately determines the total student demand on facilities. It is the key to determining the future program of instruction and the future capacities of the District.

Growth Rate WSCH and Target Enrollment

To address the capacities for future WSCH and enrollment growth, a planning model was created. The model used relied on credit-WSCH as the primary measure for determining growth. Projections were made consistent with the scope of the Plan, projecting growth out to the year 2022.

With all of the factors and key planning elements taken into consideration, credit-WSCH generation and student headcount is projected to grow at 2.4% annually. This growth is not expected to be linear. Specifically, credit-WSCH generation is anticipated to grow from the fall 2007 level of 59,591 to 84,744 by 2022. Student headcount, over this same period of time, is projected to grow from the current level of 7,233 at the College to 10,323 by 2022.

The most important outcome of the forecasting process was to assure that when a certain level of WSCH was achieved, the College had designated (or will have constructed) new or remodeled facilities in place to meet the space demands for academic and support services. Whether that level of WSCH is reached exactly in the year 2022 or is not of utmost importance. What is key is that to accommodate this future level of WSCH, the College knows what its space needs will be and has planned accordingly. The forecasting model that was used for the College meets this standard.

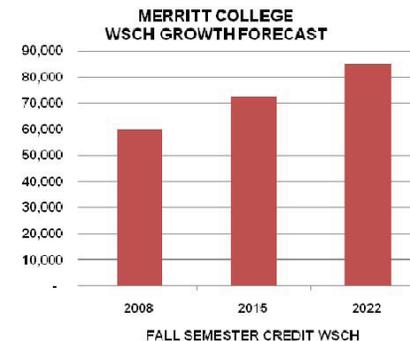
Future Programs of Instruction

Space needs for the future cannot be determined without first determining the capacity of the future program of instruction. To achieve this, Merritt College current program of instruction was used as the basis for the future forecast. The projections for the future program of instruction are not intended to dictate curricular content but rather to provide a perspective of what the current curriculum would look like if extended forward. It is very likely that the curriculum will change relative to its content over the next fifteen years.

The more important consideration and assumption, however, was that there will be a curriculum of some sort and that it will have a certain number of class sections, enrolled students, credit-WSCH, lecture hours and laboratory hours. While the program of instruction could be forecast forward using a generic curriculum and similar results obtained, the existing program of instruction at the College offered the most current and accurate form for the forecasting process. The College’s forecast of its future programs of instruction also relied heavily on several references and planning documents. Some of the more critical documents reviewed include:

- The 2008 Peralta Community College District Report 17 ASF/OGSF Summary & Capacities Summary, a facilities inventory recorded annually with the State Chancellor’s Office.
- The Peralta Community College District’s 5-Year Construction Plan.
- The 2007 fall semester data reports depicting sections offered, WSCH generated, lecture/lab ratios, seatcount and full-time equivalent faculty loads as provided via Peralta Community College District, Office of Institutional Research.
- The Maas Companies database, containing data and information from 80 community colleges throughout the State of California.

The following chart illustrates the forecast for WSCH generation by the College through the year 2022.



The following tables show the projected space needs for the academic program of instruction at Merritt College for the target year 2022. The tables present the key elements that define the future programs of instruction and identify the assignable (usable) square feet (ASF) that will be required to meet the academic space demands. Though some of the calculations use the TOP Code instructional division format, the space needs data have been presented using the instructional departments of the College for convenience.

MERRITT COLLEGE - PROGRAM OF INSTRUCTION BY COLLEGE DEPARTMENT - FALL 2022								
DEPARTMENT	NET SEC	WSCH	FTES	FTEF	LEC WSCH	LAB WSCH	LEC ASF	LAB ASF
Administration of Justice	14	4,948	164.9	2	4,655.0	292.6	2,202	626
African American Studies	17	1,534	51.1	3	1,493.2	40.7	706	61
Anthropology	14	1,415	47.2	3	1,377.1	37.6	651	56
Art	24	2,785	92.8	5	1,142.3	1,642.5	540	4,221
Asian/Asian-American Studies	3	290	9.7	0	282.4	7.7	134	12
Astronomy	4	237	7.9	1	136.2	100.4	64	258
Biology	43	12,036	401.2	15	3,150.7	8,885.7	1,490	19,015
Business	14	1,398	46.6	3	1,393.5	5.0	659	6
Child Development	53	4,621	154.0	10	2,724.5	1,896.7	1,289	4,874
Chemistry	11	2,474	82.5	5	1,424.2	1,050.0	674	2,699
Chinese	1	427	14.2	0	352.5	74.1	167	111
Computer Information Systems	19	1,580	52.7	4	1,276.5	303.7	604	519
Communications	17	1,985	66.2	3	1,149.7	835.7	544	1,788
Cooperative Work Experience	3	230	7.7	1	160.2	70.1	76	180
Community Social Services	9	3,443	114.8	3	3,239.3	203.6	1,532	436
Counseling	13	702	23.4	2	488.4	213.7	231	549
Economics	3	338	11.3	0	328.9	9.0	156	13
Education	1	47	1.6	0	20.2	26.7	10	86
Emergently Medical Technician	4	845	28.2	1	221.2	623.9	105	1,335
English	54	5,622	187.4	12	4,756.5	865.9	2,250	1,853
Environmental Management	17	640	21.3	2	448.1	192.0	212	945
Environmental Studies	1	37	1.2	0	36.6	-	17	-
English as a Second Language	24	2,186	72.9	6	1,520.4	665.4	719	1,710
Fire Science	4	1,112	37.1	0	1,046.4	65.8	495	141

MERRITT COLLEGE - PROGRAM OF INSTRUCTION BY COLLEGE DEPARTMENT - FALL 2022								
DEPARTMENT	NET SEC	WSCH	FTES	FTEF	LEC WSCH	LAB WSCH	LEC ASF	LAB ASF
Geography	6	356	11.9	1	346.4	9.5	164	14
Geology	1	143	4.8	0	82.5	60.8	39	156
History	4	334	11.1	1	324.8	8.9	154	13
Health Education	3	348	11.6	0	149.7	198.4	71	637
Health Professions & Occupations	3	180	6.0	0	47.2	133.2	22	285
Humanities	6	425	14.2	1	359.5	65.4	170	140
Human Services	11	542	18.1	2	509.6	32.0	241	69
Insurance	4	159	5.3	1	158.7	0.6	75	1
Landscape Horticulture	46	4,336	144.5	8	2,167.9	2,167.9	1,025	10,666
Learning Resources	9	431	14.4	2	431.4	-	204	-
Mathematics	51	6,171	205.7	10	6,007.3	163.3	2,841	245
Medical Assisting	1	374	12.5	1	97.9	276.0	46	591
Music	11	1,202	40.1	2	493.0	708.9	233	1,822
Nursing	11	3,723	124.1	15	974.6	2,748.5	461	5,882
Nutrition	24	1,211	40.4	3	317.0	894.0	150	1,913
Physical Education	29	2,441	81.4	7	1,049.7	1,391.1	496	-
Paralegal Studies	14	1,055	35.2	2	1,055.2	-	499	-
Philosophy	3	203	6.8	0	171.8	31.3	81	67
Physics	7	560	18.7	2	322.5	237.8	153	611
Political Science	7	556	18.5	1	541.5	14.8	256	22
Psychology	16	1,938	64.6	3	1,886.5	51.5	892	77
Radiologic Technology	14	2,446	81.5	5	640.2	1,805.4	303	3,864
Recreation & Leisure Services	1	184	6.1	0	108.7	75.6	51	194
Real Estate	31	1,954	65.1	5	1,946.8	7.0	921	9
Sociology	6	640	21.3	1	622.9	17.0	295	25
Spanish	11	1,116	37.2	2	921.7	193.8	436	291
Vocational Nursing	1	784	26.1	3	205.2	578.6	97	1,238
TOTAL	704	84,744	2,824.8	161	54,764.0	29,980.0	25,903	70,329

Source: Peralta Community College District Office of Institutional Research

2022 Program Space Requirements:

Using the allowable standards referenced in the California Code of Regulations Title 5 for calculating space (see Attachment A at the end of this Plan) and the College’s current space inventory (the Peralta Community College District Report 17, ASF/OGSF Summary & Capacities Summary, October 2008) the future space needs of the College have been determined for instructional and support service space categories.

The table shows the current inventory of existing facilities at the College, the future space qualification and the net need by space category. Merritt College currently has 219,030 ASF (assignable or usable square feet of space) and by the year 2022 (or when WSCH reaches 84,744 for a given semester) the College will qualify for a total of 261,341 ASF of space. The total “net need” for space through the year 2022 is 42,311 ASF.

MERRITT COLLEGE 2022 TARGET YEAR SPACE REQUIREMENTS				
SPACE CATEGORY	DESCRIPTION	CURRENT INVENTORY	2022 TITLE 5 QUALIFICATION	NET NEED
0	INACTIVE	0	0	-
100	CLASSROOM	39,728	25,903	(13,825)
210-230	LABORATORY	57,120	70,329	13,209
235-255	NON CLASS LABORATORY	0	981	981
300	OFFICE/CONFERENCE	30,305	22,598	(7,707)
400	LIBRARY	21,016	31,612	10,596
520-525	PHYS ED (INDOOR)	31,977	35,000	3,023
530-535	AV/TV	2,000	12,831	10,831
540-555	CLINIC/DEMONSTRATION	6,010	5,436	(574)
580-585	GREENHOUSE	4,581	3,593	(988)
590	OTHER	448	1,633	1,185
610-625	ASSEMBLY/EXHIBITION	1,186	10,323	9,137
630-635	FOOD SERVICE	5,178	6,194	1,016
650-655	LOUNGE/LOUNGE SERVICE	5,940	3,785	(2,155)
660-665	MERCHANDISING	1,786	8,417	6,631
670-690	MEETING/RECREATION	5,350	3,438	(1,912)
710-715	DATA PROCESSING/COMP	3,315	5,000	1,685
720-770	PHYSICAL PLANT	2,695	13,067	10,372
800	HEALTH SERVICES	395	1,200	805
<i>Total</i>		219,030	261,341	42,311

Source: Peralta Community College District Report 17; Maas Companies projections - Calculations based on California Code of Regulations Title 5, Chapter 8, Section 57028

Allied Health Program

This is a vibrant Health Care program that has consistently exceeded student capacity and in need of additional physical space. There is a need for additional clinical spaces to address the various programs and augment private business partnering that are currently being negotiated.

To accommodate specialized courses, updated facilities with specialized equipment must be provided. These spaces will not only require different building finishes and increased space, but the equipment will require additional building infrastructure to support it.

Bio-Science and Bio-Technology Program

The recent recipient of a Federal Grant that will provide equipment and medical resources, this is an accelerated program that is also exceeding student capacity. The current spaces are outdated, not equipped with adequate storage, proper lighting and lack the building infrastructure to support the requirements of the new equipment.

New laboratory spaces should be constructed to provide the building infrastructure that will support the new programs and equipment. Due to the science materials used in this class, specialize building finishes and casework must be carefully incorporated.

Landscape Horticulture:

The landscape horticulture provides a unique opportunity of agricultural experience and coursework within minutes of an urban metropolis. The existing greenhouse is antiquated, increased physical space is needed and lacks updated equipment and building functionality.

The Green house must be expanded to support the anticipated curriculum changes and kinds of agricultural studies that are scheduled to be offered. An operable roof could be provided for ventilation and increased pollination requirements of different plants.

Hospitality Program

The College has researched and committed itself to offering a new curriculum, Hospitality Management. Although in its infancy this program will require a complete modernization and renovation of one of its existing buildings or new construction.

This will require hotel - like spaces that are highly finished and reflect a world within the educational campus of which it is housed. Another strategy would be to partner with private business entrepreneurs to build a new hotel and allow for intern training at the new facility.

Associated Projects

There are currently no projects planned for the areas around Merritt College. The newest development is the Jewish Community School which was built a few years ago on Redwood Road.

Merritt College's Vision Statement:

- Create learning experience that stimulate intellectual curiosity, empower students to communicate effectively, to think creatively and critically to embrace their potential.
- Prepare students to become the future leaders of our interconnected global society.
- Engage the community as an active participant and resource to learning through creative partnerships.

Merritt College's Mission Statement:

The mission of Merritt College is to enhance the quality of life in the communities we serve by helping students to attain knowledge, master skills, and develop the appreciation, attitudes, and values needed to succeed and participate responsibly in a democratic society. To accomplish its mission, the College provides open access to excellent instructional programs and comprehensive support services in a culturally-rich, caring and supportive learning environment. Our purpose is to provide opportunities for lifelong learning, contribute to the economic growth of our communities while assisting students to attain degrees and certificates, earn credits to transfer and develop the skills necessary to complete their educational goals.



CAMPUS MASTER PLAN

WLC Architects is committed to integrated communication with all stakeholders of Peralta Community College District. The District has a shared governance mandate, that require the District's management operations and facility development planning considerations to have input from all college stakeholder groups.

We have conducted several meetings with the College President, the Vice President of Instruction, Vice President of Student Services and the Business Manager. Those meetings were held to get the vision and goals from the college leadership. The objective was to have focused workshops to solicit their views and perspectives, on the development of facilities as it relates to the educational delivery system and the image of the College. Similarly, we also met with academic faculty and student representatives to hear their concerns and vision for the future development of their college.

A critical component of stakeholder input was to learn from the users how they actually use the college facilities. We needed to know the facilities that worked as well as those that didn't work. We needed to asses what facilities and amenities were missing, needed support for educational functions and future educational trends (i.e.: Smart Classrooms), without restricting the input of ideas due to operational and fudiciary concerns. Requests for suggestions and recommendations were not limited to buildings, it also included: campus grounds, athletic facilities, transportation needs, community participation and potential future development.

It is important to note that all stakeholders were encouraged to submit ideas that were visionary and "outside the box"; to enhance things that worked well and ideas that are currently not part of the college lexicon. We also sent out a survey to all faculty and staff at the college to get as much feedback as we could about the existing condition of the college's facilities. The results of that survey is included in the Master plan.

We recorded the information from these groups, and extracted the concepts ("big ideas") to discuss in the larger Town Hall Forum; whereas faculty, staff and students who may not have attended committee meetings, could voice their concerns and ideas to improve the college. This process attempted to form a consensus on the college's Master Plan goals and ideas of the college.

An important part of integrated communication with all stakeholders is to also share ideas with the other colleges and the District administration. This can allow for for cultivating ideas and fostering coordination with other colleges, as it relates to the District Wide Educational Master Plan.

Vice Chancellor Dr. Ikharo was our primary contact and was responsible for implementing the Chancellor's vision in this process as well as coordinating the information from the District's Maintenance and Operations Department.

To accomplish the exchange of communication, the educationally driven facility ideas were shared at the District Wide Facilities & Land Use Planning Committee. The objective was to give all College Presidents, Vice Presidents of Instruction and Business Managers an opportunity to view each of the College's Master Plan goals and ideas, and compare them with the goals of the District Wide Educational Master Plan and collaborate with each other in areas of mutual interest. Where there may be possible redundancy, the opportunity was available to begin the conversation on potential solutions.

Additionally, those ideas were also shared at the District Wide Educational Master Plan Committee to gather their input on the Master Plan goals and ideas, as it relates to supporting the District's educational priorities and educational delivery systems.

As the Master Plan was being developed, the Chancellor offered his guidance in the process, by directing his Strategic Management Team to coordinate all District Administrative Departments, Committees and Colleges with WLC to ensure required decisions were given and pertinent information was diseminated to WLC.

WLC attended monthly meetings with the Board of Trustee's Facilities and Land Use Committee. This enabled WLC to keep pace with the District's ongoing Capital Project Plans for the College and share our infomation from the Master Planning Process.

These meetings and information sharing, helped to ensure constant communication throughout the Master Planning Process.

SURVEY RESULTS SUMMARY

BUILDING	FACULTY AREAS	CLASSROOM	OFFICES	RESTROOMS	CORRIDORS	COURTYARD/ PUBLIC SPACES	OTHER AREAS
Building A							
Ranking	2		2	1	1	2	2
Comments			Located within Studios.			Great space in building A quad.	Large enough to handle the crowds and space required for painting and ceramics.
Pros							
Cons	There are no faculty gathering places in the A building complex; no faculty restrooms.		Not sound proofed.	Filthy; not cleaned on a regular basis.	Very dark, safety risk.	There are no places to gather.	A122(Art): lighting is very poor. A116/A117: too small to hold 35 piano students, room was not designed for classroom, no ventilation or heat, cannot use projector.
Building D							
Ranking		1		1		1	
Comments		D178 CAD Studio		Staff			
Pros							
Cons		Seating/desk layout does not work; space doesn't lend itself to the proper layout; no windows, room is a cave; <i>lacking smart technology.</i>		In state of disrepair and filthy. (women's 1st floor)		Architecture unfriendly, too much concrete, dead plants, etc. public spaces not conducive to comfortable gathering and socializing.	
Comments	Classrooms in general need to come into the 21st century and become <i>smart classrooms</i> . HVAC does not function properly to maintain thermal comfort.						

BUILDING	FACULTY AREAS	CLASSROOM	OFFICES	RESTROOMS	CORRIDORS	COURTYARD/ PUBLIC SPACES	OTHER AREAS
Building L							
Ranking			1	2			1
Comments			Good site lines throughout library; window views provide open feeling.				Open, airy, beautiful views.
Pros							
Cons			Inadequate lighting and electrical outlets; security lacking; old furniture does not adapt to computer needs.	Automatic toilets do not work properly; maintenance lacking.			Lack of security, antiquated lighting; no AC, no operable windows-stuffy space (no airflow). Automatic sliding entry doors are problematic.
Comments	General: A/C, security, lighting, book-theft prevention system, front door replacement are top priorities. Additional electrical outlets and computer ports are also essential.						

MASTER PLAN CONCEPTS

BUILDING	FACULTY AREAS	CLASSROOM	OFFICES	RESTROOMS	CORRIDORS	COURTYARD/ PUBLIC SPACES	OTHER AREAS
Building H (Horticulture)							
Ranking		2	2	1		2	
Comments		D132, D133, D116 D132, D133: good size, voice travels well through room; blackboards in front of classroom.	Two office set-up; windows	Staff + Students Staff: two stalls and a sink.		New seating that was recently added.	
Pros							
Cons		D132: Cannot control sunlight-shades do not work; insufficient electrical outlets, no internet connection; blackboards produces dust.	Insufficient electrical outlets too small for the number of staff that share, wall needs painting.	Staff: stalls are old and cracked; dirty at floor connection. Students: horrific ceiling tiles falling, no privacy, sink counter retains water, toilets frequently do not flush.		Areas not protected from rain; dark and scary at night.	
Building H (Horticulture)							
Ranking		2	1	1		2	
Comments		H108, H105, H101		Staff / Students			
Pros		H108: wireless internet access, work tables. Room cavernous for lecturing; H105: tables give students space, room is good size.					
Cons		H101: not the proper room for lab instruction taught.	Offices are generally extremely crowded.				

The Tables shown illustrate comments given by Faculty, Staff and Students. These comments and rankings were collected from the actual survey comments and listed here for quick viewing. The ranking pattern was 10 = best and 1 = bad. The colors were added to quickly view an area and decipher its condition. The text list specific problems as noted by the survey participant.

The Town Hall Meetings that were held on the campus provided the basis for many of the Master Plan Concepts. Some primary recommendations from those meetings are as follows:

Educational Program Needs

- Separate Computer Labs from Writing labs and separate these labs from public student gathering areas.
- Larger Computer labs with software and tutors.
- Provide “Smart Classrooms” throughout the campus.
- Self Reliant House curriculum should be integrated with College’s sustainable-energy program.

Site

- Rolling hills and beautiful foliage. The campus core layout mirrors it’s surrounding but does not encourage congregating.
- Facility analysis: ranking is red to blue on map, with red representing inferior facilities. Merritt’s assessment site map has more red tones; no blue tones.
- Educational priorities: will also inform the site decisions.
- Pay phones are needed on site as cell phones do not work in this area.
- Provide Cell phone antennae on campus so that cell phones can work.
- Need public address system for entire Campus.
- Parking Lot “B” is to far away from campus.
- Connect “B” parking lot to campus.
- Provide kiosks with signage for information, telephones and snacks.
- District should provide shuttle from Bart to campus, via bus route.
- More parking near Horticulture building.
- Provide gazebos and “look-out” point near parking lot edge for visitors and students.

Landscaping ideas

- Expand on current landscaping trends, add more trees.
- Develop Common areas – to keep students on campus.

Exterior and Interior Spaces

- Right of way, sterile entryway and barren courtyards. We have the bones, but the final design still needs “fleshing out”.
- Common areas not conducive to congregating.
- Building exteriors: basic, concrete monoliths with no variety; very institutional.
- Less than smart classrooms. We are clearly “making do” with existing classrooms.
- Library area: libraries are becoming learning resource areas with high degree of multimedia etc.
- Athletic facility – locker rooms not used much
- Gym: A needed upgrade, gym floor is in dire need of replacement.
- Need better exterior seating areas; preferably with wireless.

Buildings

- Demolish and Rebuild Building “D”; demolish Building “A”.
- Library needs remodeling, will need museum area with Black Panther memorial.
- Make buildings more people friendly need more glass.
- Change names of buildings from letters to actual names.
- Buildings feel heavy, monotonous and institutional.
- Conference Center with creative arts theater.
- Buildings have institutional appearance, should be less institutional.

Sustainability

- Add rooftop gardens to Student Center and Library.
- Provide photovoltaic solar panels for energy conservation.

Pursuant to ongoing meetings with the District and the Colleges, WLC incorporated the District's Five Year Construction Plan projects into the Facilities Master Plan Process. Although most projects will proceed as scheduled, some projects will be modified to include recommendations from this Facilities Master Plan.

The Facilities Master Plan Principles are as follows:

Parking / Pedestrian Access:

A clear connection between parking lot and the campus building can be created with handicapped accessibility to direct students and visitors to their destination.

Quad Areas:

Can assist in adding campus identity, focus and liveliness to the overall campus environment and also serves as a student gathering point.

Courtyard:

To create a softer and less rigid educational environment, the courtyard landscaping can add a mixture of elements such as green planters, gravel, and wood flooring.

Main Entrance:

Creating a front gate at the bus stop entrance would tell pedestrians they have arrived at Merritt College and give character to the Campus.

Directional Signage:

Adding "way-finding" directional signage gives clear directions to specific buildings, which helps to reinforce locations previously stated on the existing site map signage.

Smart Classrooms:

Technology should be updated to keep pace with changes in the educational curriculum, take advantage of technological advances and have flexible furniture to accommodate the new "active learning" spatial layouts.

Laboratories:

Provide new laboratories with updated equipment, appropriate building finishes and furniture, updated mechanical and electrical systems; in addition to specialized equipment, necessary to support the biotechnology and health science educational requirements.

New construction must capitalize on the panoramic views.

Create an environment that supports students remaining on campus. Current spaces both interior and exterior should be enhanced to encourage students remaining on campus between classes.

Merritt College currently leases student housing from Holy Names University.

Provide sustainable solutions for new development and enhance energy generation capabilities.

Investigate potential public private partnerships for new development.

The Facilities Master Plan attempts to incorporate the District's Five Year Construction Plan into the recommendations for the college. The Five Year Plan has proposed a new Allied Health and Science Building. This building will support the highly successful Nursing Program and the new Biotechnology Program. The District currently has a high State funding ranking, for a new Child Development Center building. The District will also modernize the Horticulture Building and its facilities, as part of its Five Year Plan.

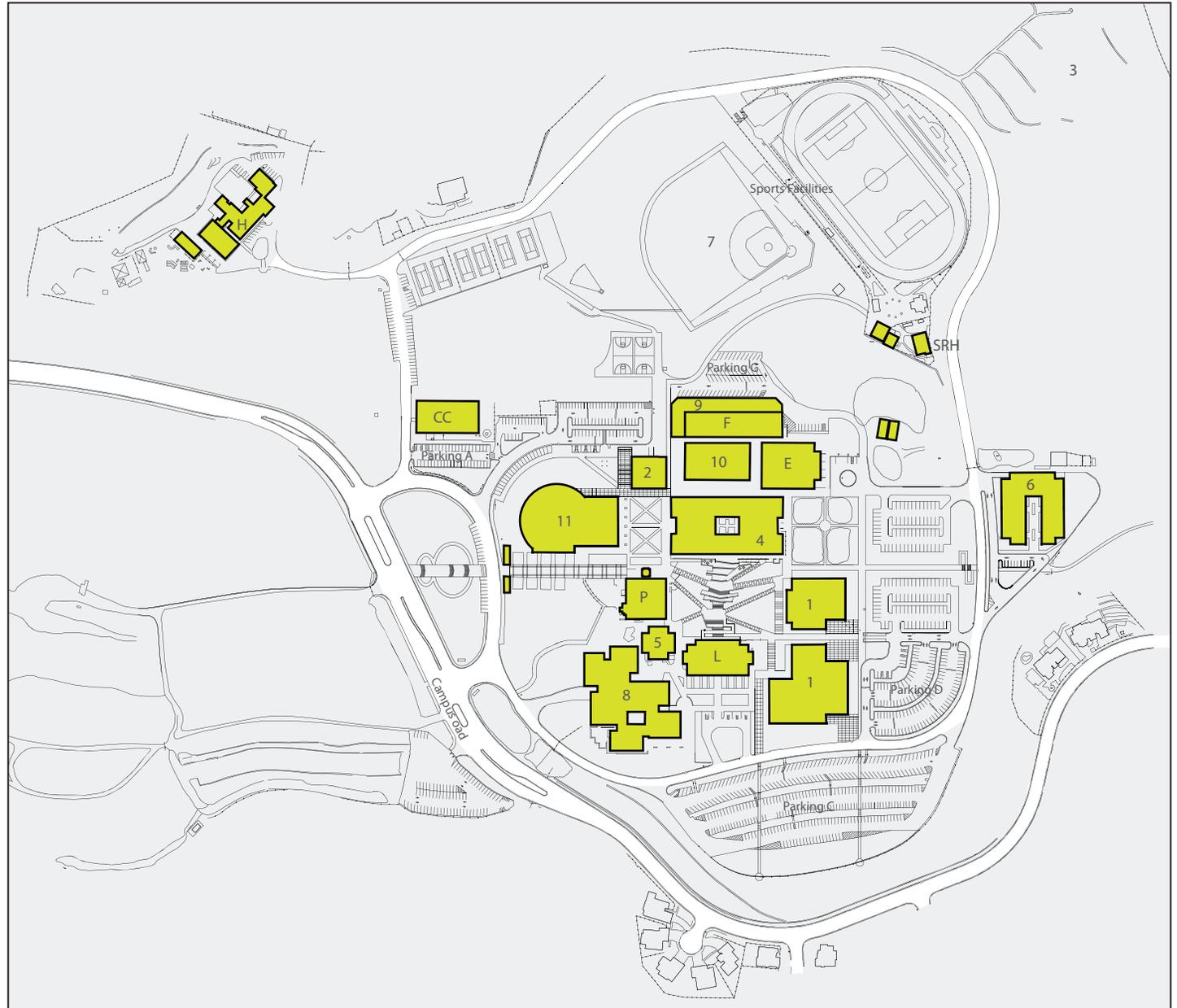
The College is very passionate about revitalizing the campus and has pushed for Student Housing on campus. An Athletic Facility addition could be created to encourage and strengthen college-community relationships; the Athletic Facility addition could include a swimming pool as part of the new complex.

A critical element of the Facility Master Plan recommendations is to encourage and strengthen community-college relationships. Due to the remote nature of the area, it was determined a neighborhood live theater space, could be an amenity to the community and offer an identity to the campus.

PROPOSED CAMPUS BUILDING

CAMPUS LAND USE

- 1 Allied Health/Science Building
- 2 Child Development Center
- 3 Photovoltaic Field
- 4 Student Center
- 5 Classrooms
- 6 Student Housing
- 7 Baseball Field with Geothermal
- 8 Administrative and Health Services
- 9 Athletic Facilities Addition
- 10 Swimming Pool
- 11 Theater



PROPOSED CAMPUS BUILDINGS

CAMPUS LAND USE

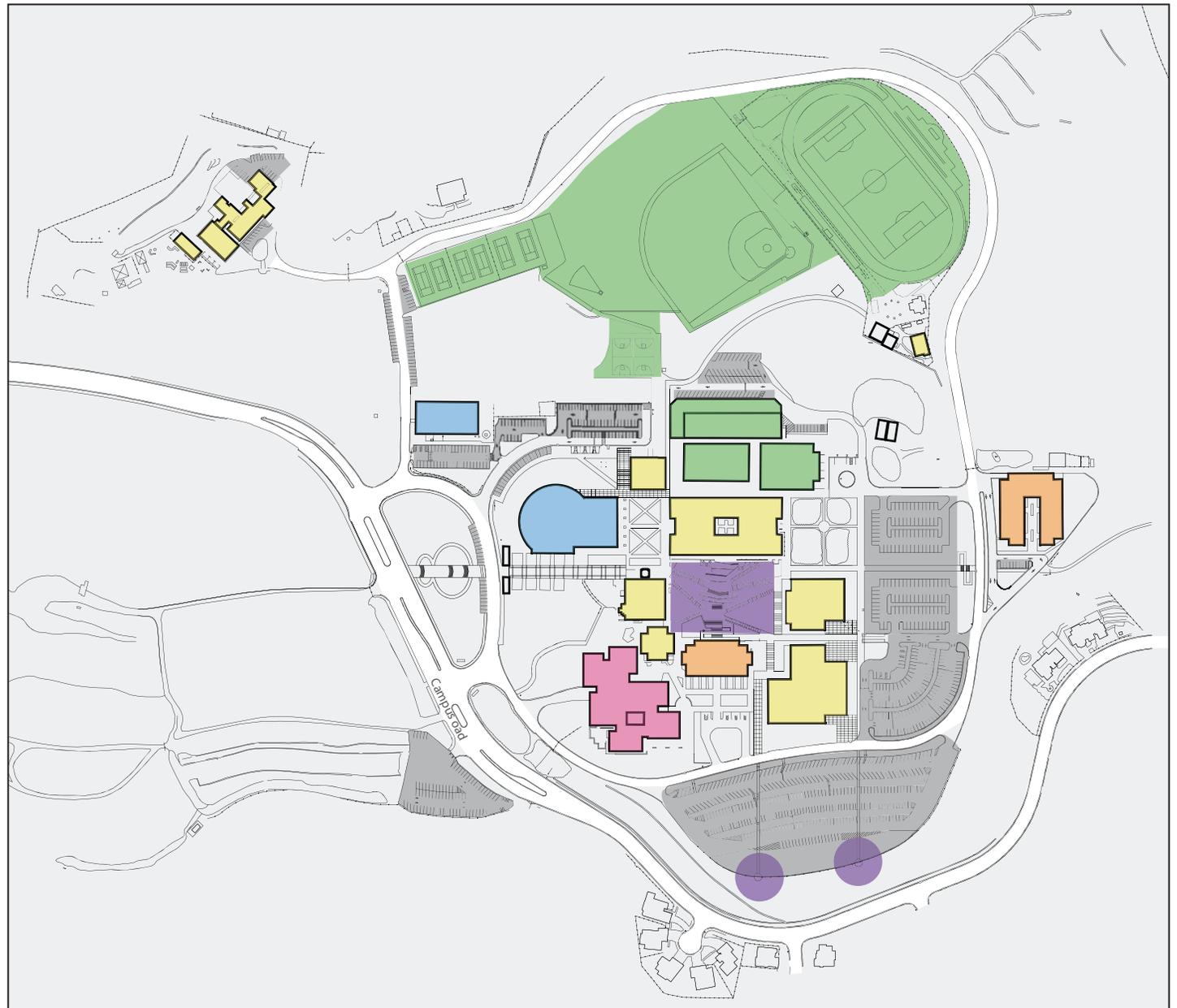
The Athletic Facilities recommendation is to create a better connection between the campus and the athletic fields. An athletic zone is now firmly established adjacent to the revitalized student core.

With the new classroom buildings and modernizations an academic cluster is formed with a central core that can serve as event space. Academic support spaces are strategically located for student convenience.

New park event spaces are recommended at the hillside to allow for Faculty, Staff, Students and Visitors to take advantage of the great panoramic views. This will also provide an amenity to the community as the area is frequented often by students and visitors.

CAMPUS USE AND FACILITIES





LEGEND

- Academic
- Academic Support
- Student Services
- Administration
- Athletics & Open Spaces
- Other
- Parking
- Event Space

0 100 400 feet



PROPOSED CAMPUS USE AND FACILITIES

In December of 2007, the Peralta Board of Trustees passed a progressive and aggressive policy that committed the District to adopting principles of sustainability in its daily operations and future planning.

The following LEED™ sustainability credits could be realized in future projects:

Water Efficiency Credit 3: Water Use Reduction

This credit addresses maximizing water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Energy and Atmosphere Credit 2: On-Site Renewable Energy

Encourage and recognize increasing levels of on-site renewable energy self-supply in order to reduce environmental and economic impacts associated with fossil fuel energy use.

Materials and Resources Prerequisite 1: Storage and Collection of Recyclables

Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

Indoor Environmental Quality Credit 4: Low-Emitting Materials

Reduce the quality of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

Indoor Environmental Quality Credit 5: Indoor Chemical and Pollutant Source Control

This credit addresses minimizing exposure of building occupants to potentially hazardous particulates and chemical pollutants.

Indoor Environmental Quality Credit 6: Controllability of Systems

Provide a high level of lighting system control by individual occupants or multi-occupant spaces to promote productivity and comfort.

Indoor Environmental Quality Credit 7: Thermal Comfort

Provide a comfortable thermal environment that supports productivity and well being of building occupants.

Indoor Environmental Quality Credit 8: Daylight and Views

Provide a connection between indoor spaces and the outdoors through the introduction of daylight and views into regularly occupied areas.

The recommendations for sustainable and energy generation projects are:

A ground mounted solar photovoltaic array at the North-East area of the site. Building rooftops could also have solar photovoltaic panels installed to increase the number of panels, if needed.

If the District is successful in its efforts to install a baseball field or new soccer fields; we would recommend geothermal coils be installed prior to installation of the new field.

- 1 Photovoltaic Array Field
- 2 Geothermal Coils in Field



Main Entries

For vehicles, the main entry to the Merritt College campus is the southern entrance heading south off of Campus Drive. This entrance is emphasized over the first through the use of prominent signage. The first entry point is changed into a curb-cut driveway, rather than a T intersection.

For pedestrians, gateway plazas occur around the perimeter of the campus core. The east-west axis is extended to Campus Drive in anticipation of a connection to the future conference center on the west side of Campus Drive.

Transit

Bus service is provided to the western gateway plaza.

Pedestrian

Pedestrian circulation is clarified by developing a hierarchy of pathways which emphasizes the major east-west and north-south axes. Accessible routes are provided along diagonal pathways where required by the slopes. An accessible path is provided from the campus core to the athletic facilities to the north.

Vehicle and Parking

Vehicular circulation remains as it exists, with the addition of a vehicular connection northeast of Building E that closes the vehicular loop around the campus core. Parking spaces are eliminated in the southern parking lot to make way for a storm-water management zone and additional tree plantings. Parking is added on the eastern part of campus, in the current location of Building A, which is to be demolished. These parking lots could be future building sites.





PROPOSED CIRCULATION AND ACCESS

Open Space Goals

The Landscape Plan was developed to achieve five broad goals. These goals were developed based on an inventory and analysis of existing conditions, meetings with college and District administration and staff, and the "Town Hall Meeting." The goals and the ways they are achieved are as follow.

1. Provide functional and valuable outdoor spaces.

- Activate the Quad by bringing student center functions to the center/quad area.
- Improve quad function by increasing seating areas
- Improve athletic facilities by renovating basketball courts, adding a swimming pool, and adding a baseball field.
- Establish the entire campus as an outdoor classroom for the Landscape Horticulture program of distinction by creating characteristic planting zones demonstrating different native and drought-tolerant plant communities and limited exotic ornamental planting areas.

2. Create a unique and exciting campus identity that capitalizes on its beautiful location.

- Bring the natural environment into the campus.
- Clarify and enhance the vehicular entrance experience from Campus Drive.
- Express a campus theme related to the natural environment through planting zones, overlooks and gathering spaces that take advantage of the views and surrounding natural landscape.
- Plant all of the unplanted areas of the campus.
- Strengthen the character of the campus perimeter landscape as part of the surrounding natural landscape.
- Preserve existing natural areas.

3. Provide a legible and convenient circulation system.

- Improve bus access by establishing a bus loop around the campus.
- Complete pedestrian circulation routes where there are dirt pathways.
- Improve the connections from the southeast and east to the Quad.
- Create a more direct connection from the Library to the Quad
- Enhance connections between all of the parking lots and the campus core.
- Create entry plazas incorporating gateway elements around the perimeter of the campus.
- Create accessible connections from the north parking lots to the athletic fields.
- Create a vehicular and pedestrian connection from the north parking lot to east of Bldg. E.

4. Enhance the campus's landscape clarity.

- Define the eastern edge of the Quad.
- Define the western edge of the D-E-F courtyard.
- Create a campus edge and screen residences to the north.
- Strengthen the campus framework by emphasizing the east-west and north-south axes.
- Extend the east-west axis from the Quad to the east parking lot and from the bus stop to Campus Drive.

5. Contribute to the campus's sustainability through landscape improvements and features.

- Implement sustainable stormwater management.
- Use drought-tolerant species to reduce water use.
- Increase shade in the parking lots to reduce the urban heat-island effect.
- Install photovoltaic panels where possible and appropriate.
- Increase biodiversity and habitat value in natural areas.



Main Entry Plaza



East-west axis through Quad

Campus Framework

In its current condition, Merritt College's organizing framework is somewhat difficult to discern from the ground. Reviewing the 1976 Landscape Master Plan confirms that the two main axes through the campus--the north-south axis through Building D and the Library, and the east-west axis passing through the Building P tower--were intended to be the main organizing principle of the campus, with future buildings forming a roughly symmetrical plan about the north-south axis and completing the east-west axis. In the 1976 plan, the proposed buildings on the eastern half of campus enclose the central quad.

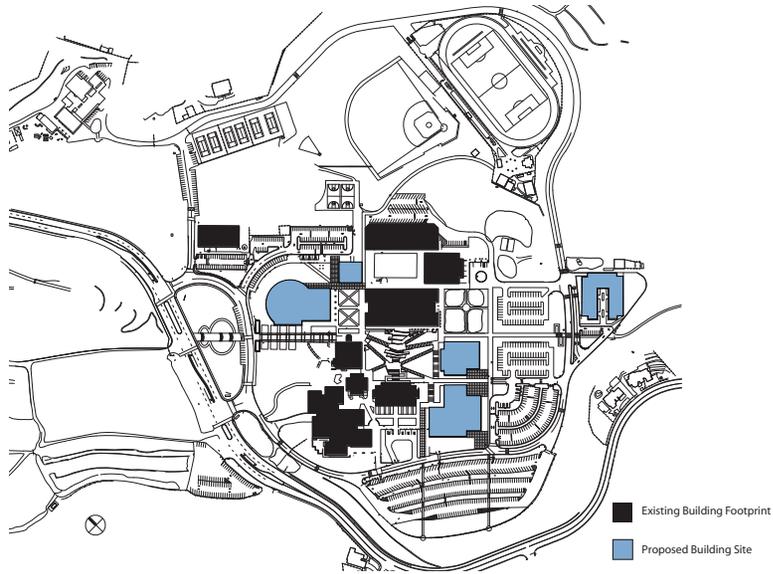
The campus framework put forth in this Master Plan respects the original intent of the campus planners by strengthening the important axes and defining the open spaces with buildings and landscape elements. The campus framework is strengthened in the following key ways.

- The central quad is enclosed by the northern wing of the proposed Allied Health Science Building.
- The east-west axis is reinforced by the alignment of the proposed Theater/Fine Arts Facility and Allied Health Science Building.
- The east-west axis is continued to Campus Drive. (This would strengthen the connection to the potential conference center that would be constructed across Campus Drive.)
- The entry plaza south of the Library is enclosed by the southern wing of the Allied Health Science Building.
- Access to the Quad is provided east of the Library, mirroring the existing condition on the Library's west.
- Secondary open spaces are created to the east and west of Building D. The western of these is centered on the Building P tower.
- Entries are marked by a series of plazas around the perimeter of the campus core.

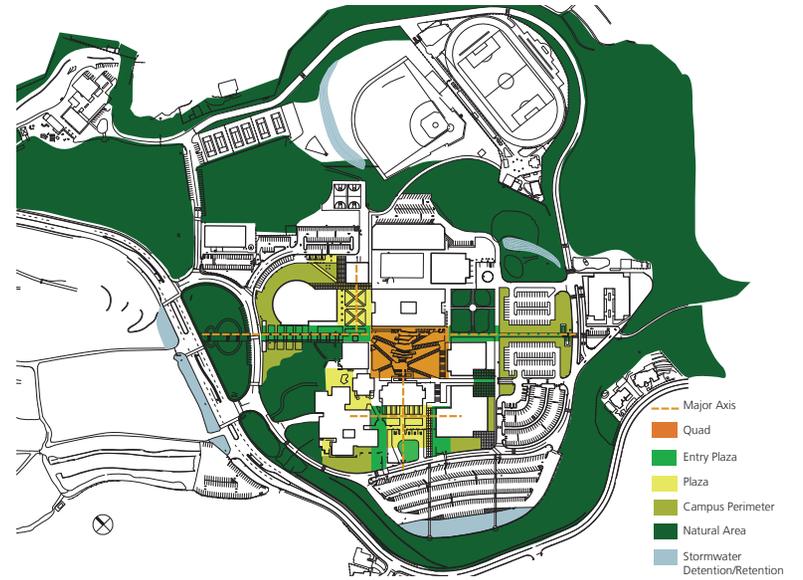
In addition to these structural changes, the campus framework strengthens the campus's relationship with its natural surroundings by preserving the natural areas within the campus (south of the sports fields) and bringing the natural landscape into the campus core from the southwest and northeast.

OPEN SPACE ELEMENT

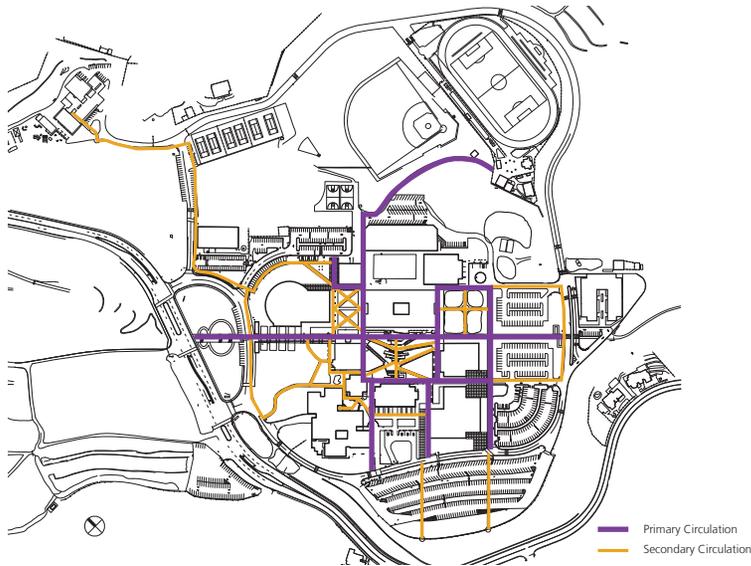
LANDSCAPE PLAN



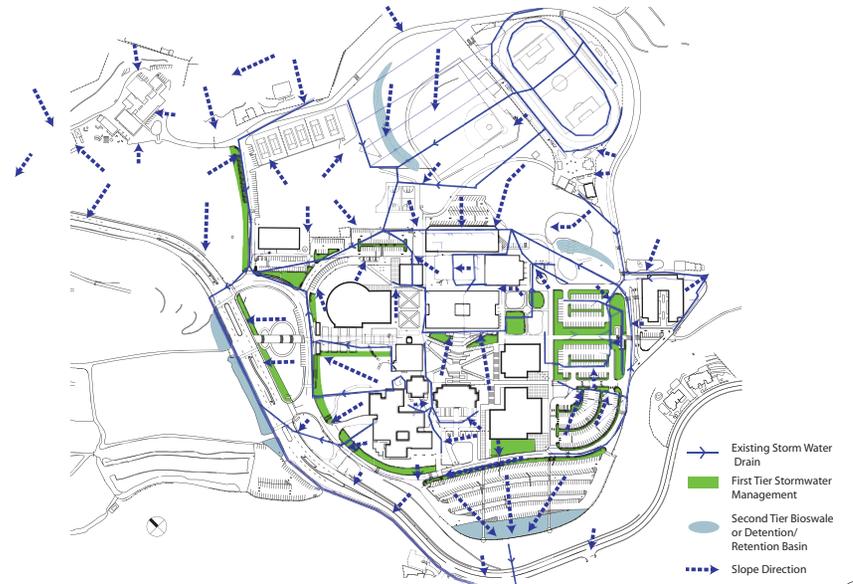
Built Form



Open Space



Circulation



Stormwater Management

0 750 feet



FRAMEWORK DIAGRAMS



Stormwater management - Precedent



Stormwater management - Precedent



Photovoltaic panels at parking lot - Precedent



Bioswale at parking lot - Precedent

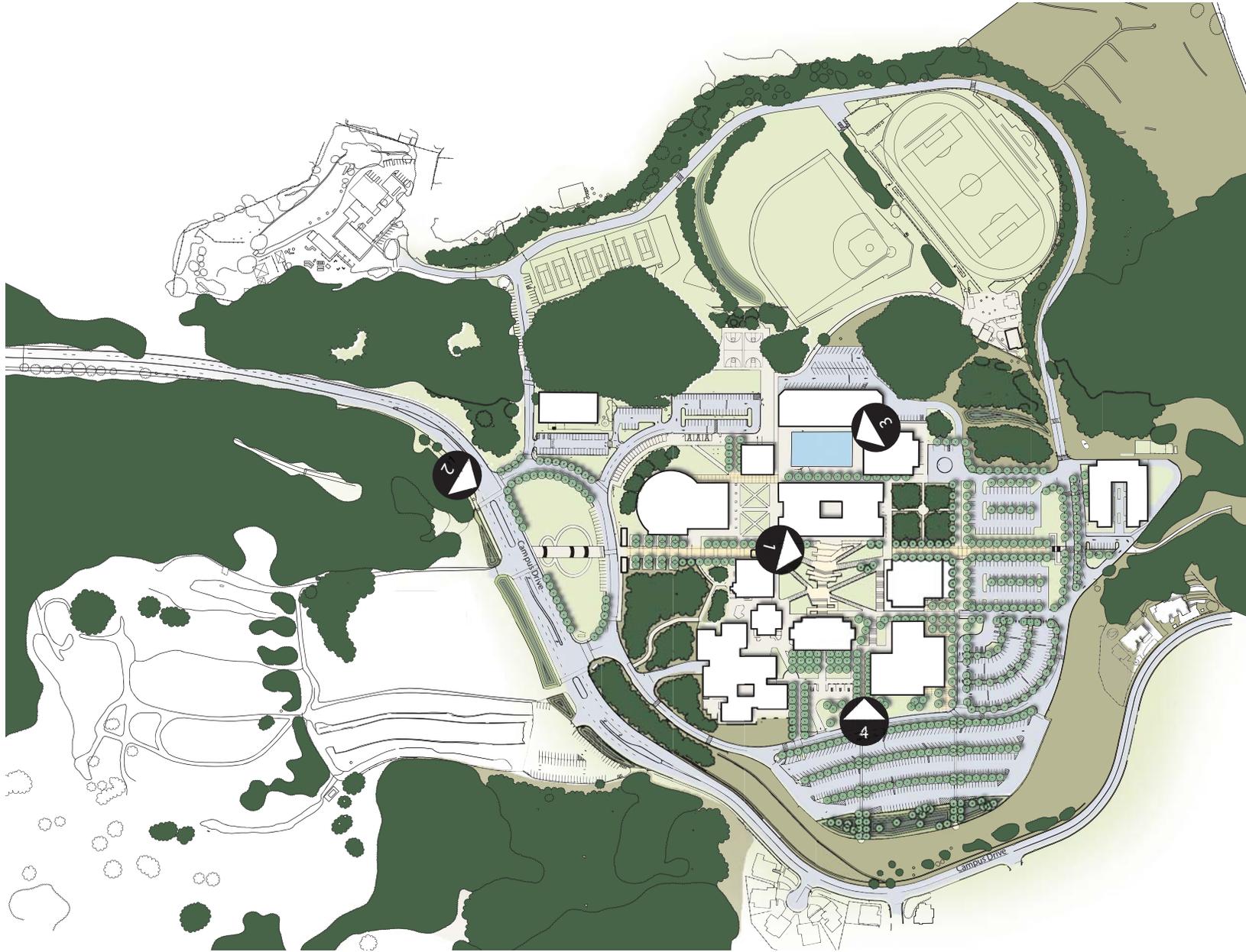
Sustainability

The main environmental impacts of the Merritt campus open spaces are due to the vast parking lots. The parking lots contribute to the urban heat island effect and produce polluted and increased stormwater runoff. The following sustainable design initiatives should be implemented:

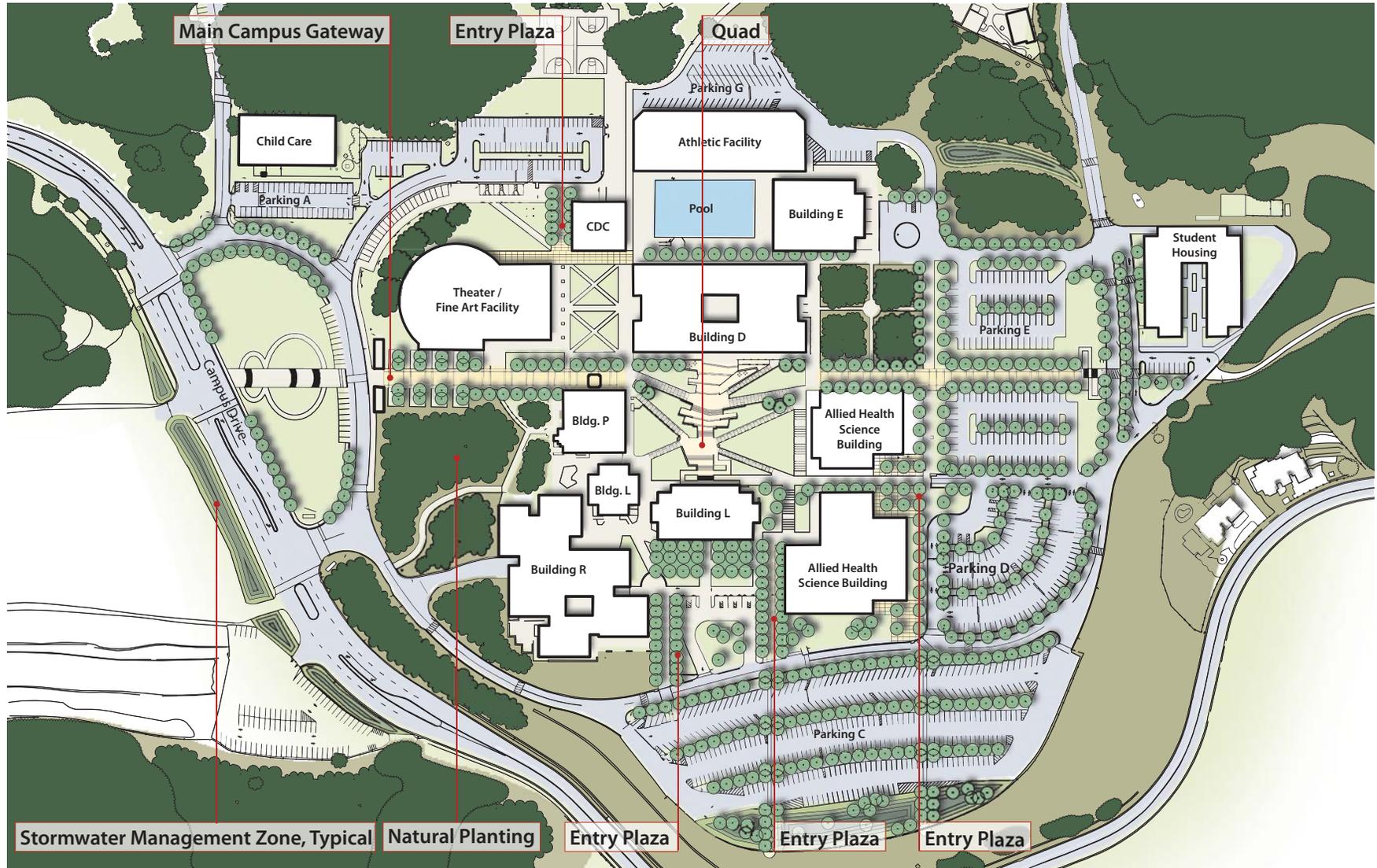
- Stormwater management: Best management practices (BMP's) such as bio-swales, permeable paving, and retention/detention basins should be installed in all of the parking lots to handle the stormwater runoff from the parking lots.
- Shade: The parking lots should be shaded with trees.
- Electricity generation: Photovoltaic panels could be installed over the parking lots. This would have the dual value of shading the asphalt paving and producing electricity.

Additional open-space sustainability measures that should be implemented include:

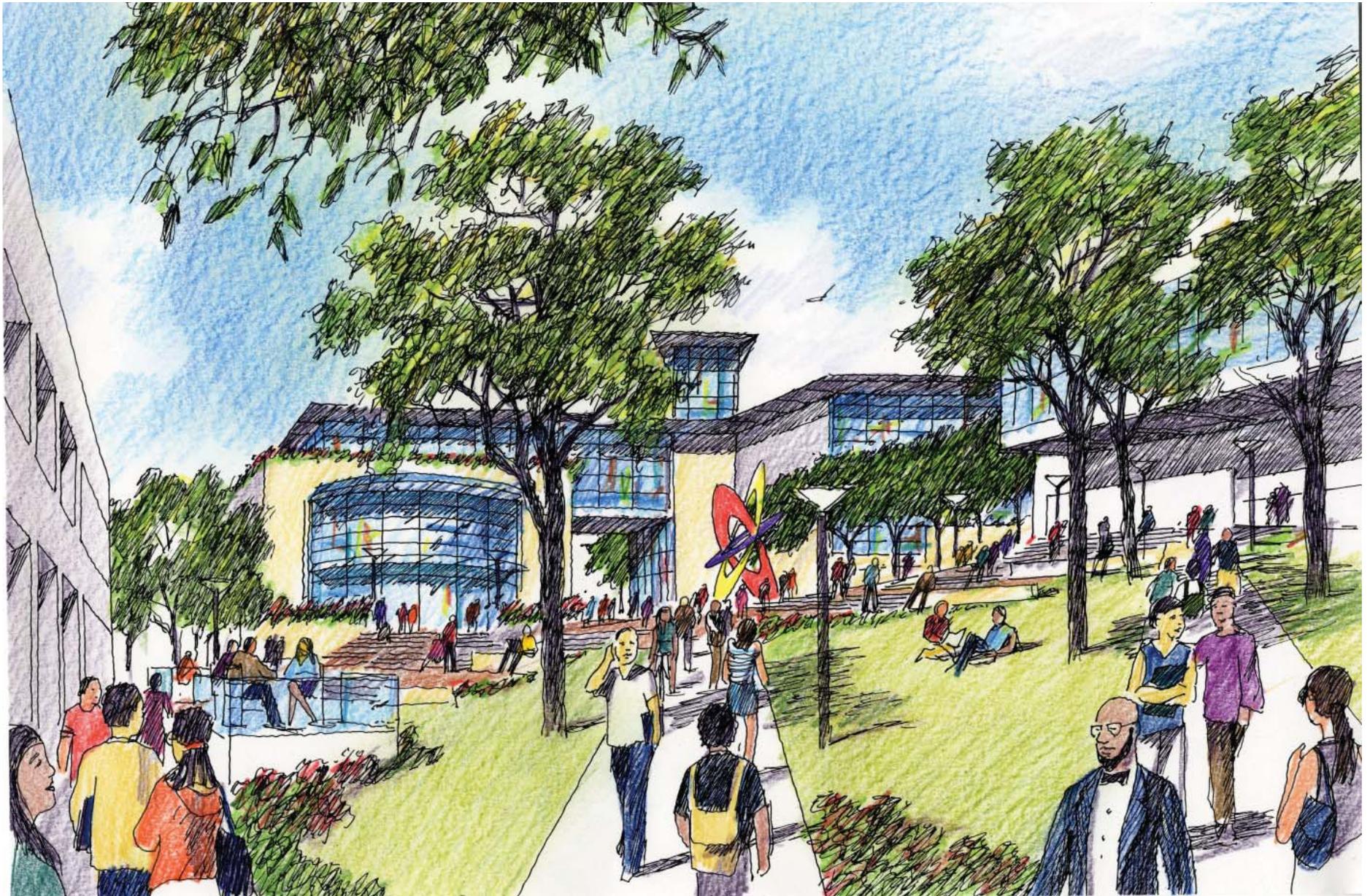
- Provide ample bicycle parking.
- Utilize recycled-content materials for paving and furnishings.
- Replace lawn with drought-tolerant species. Lawn areas should be limited to those actively used for athletics and seating.
- Use high-albedo (light colored) paving materials to reduce the urban heat-island effect.



PROPOSED CAMPUS LANDSCAPE CONCEPT PLAN



PROPOSED CAMPUS LANDSCAPE CONCEPT PLAN - CORE CAMPUS AREA



1. Central Quad

LANDSCAPE PLAN

OPEN SPACE ELEMENT



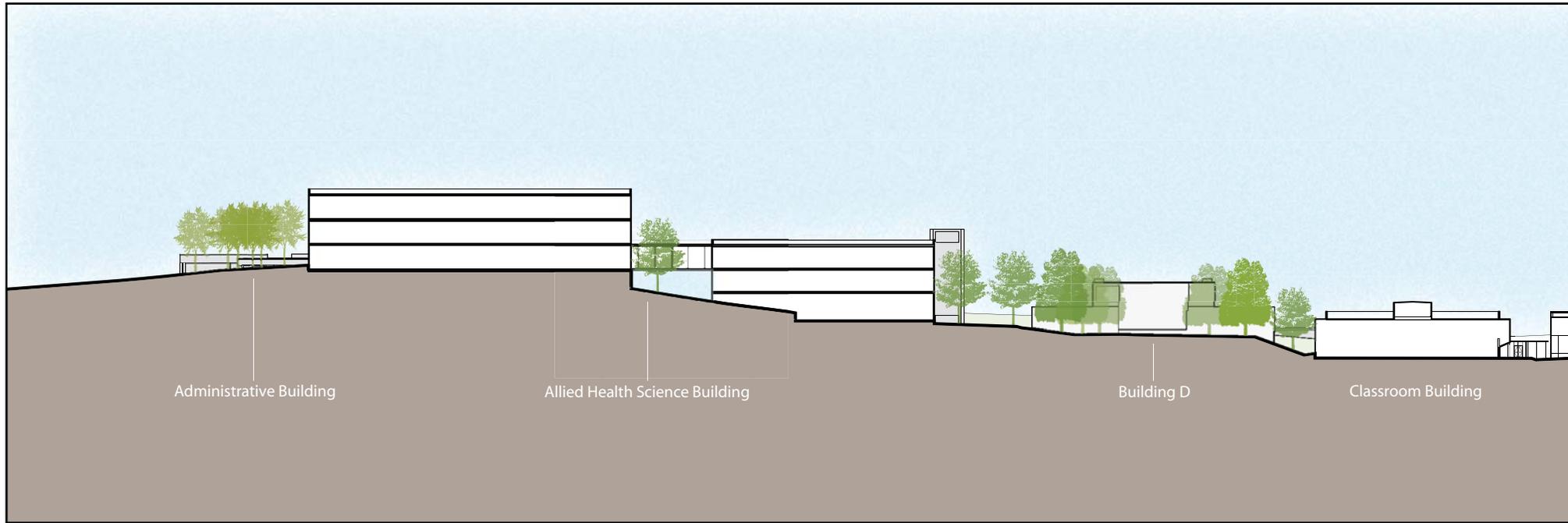
2. Western Entry Gateway



3. Swimming Pool and Athletic Facility, with Theater/Fine Art Facility be-



4. Southern Entry Plaza



Administrative Building

Allied Health Science Building

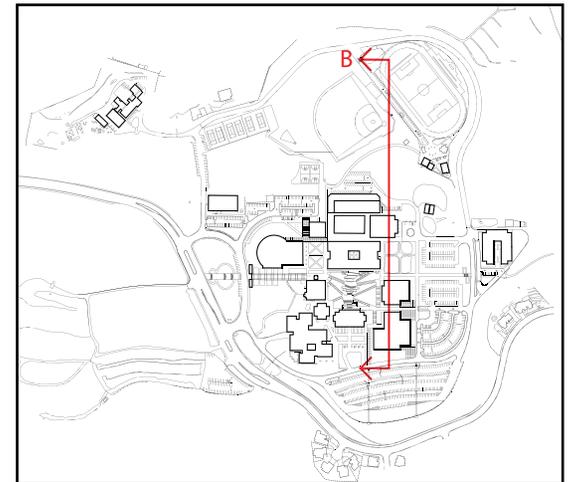
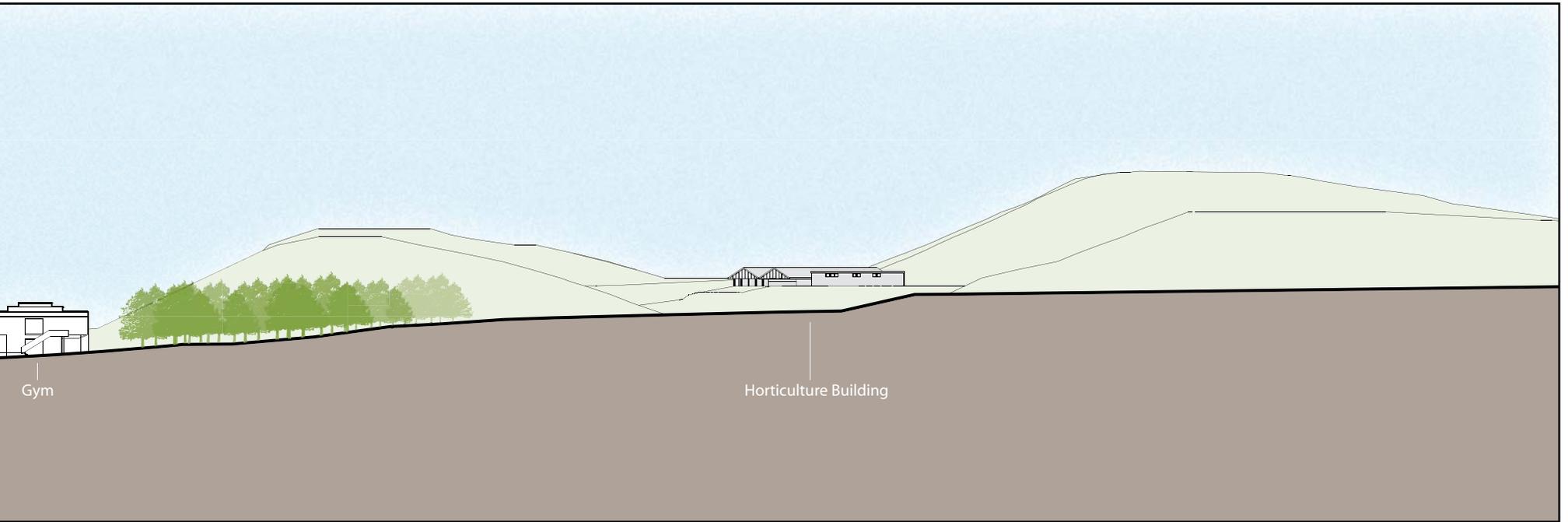
Building D

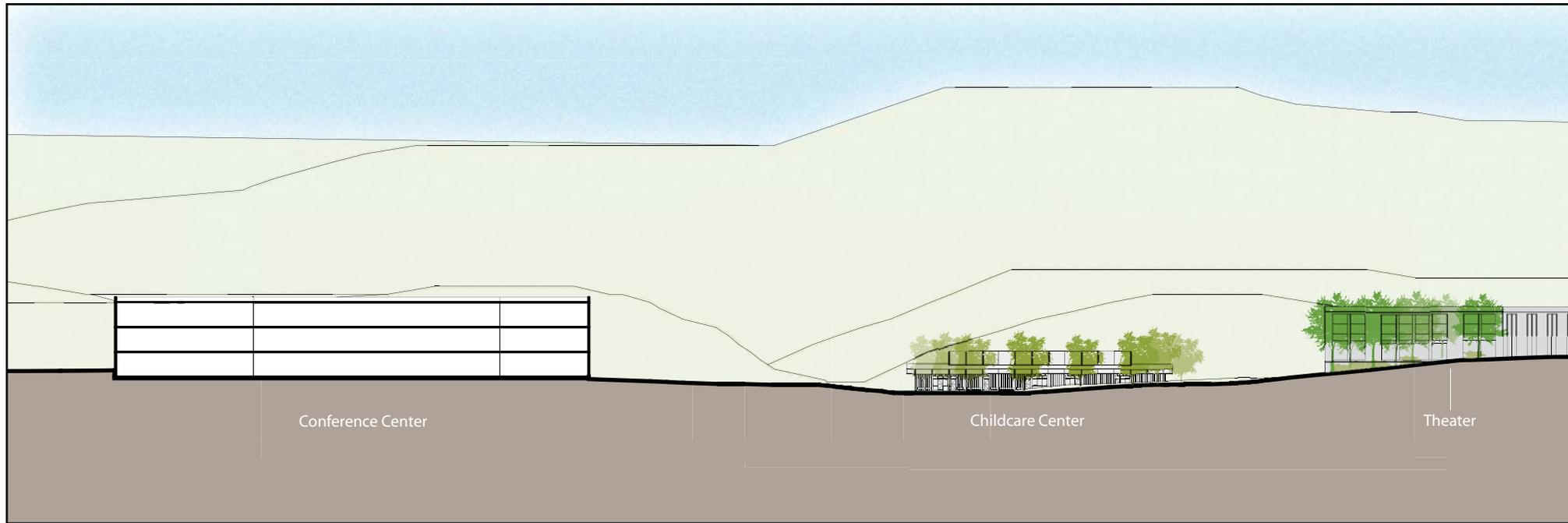
Classroom Building

PROPOSED SECTION A



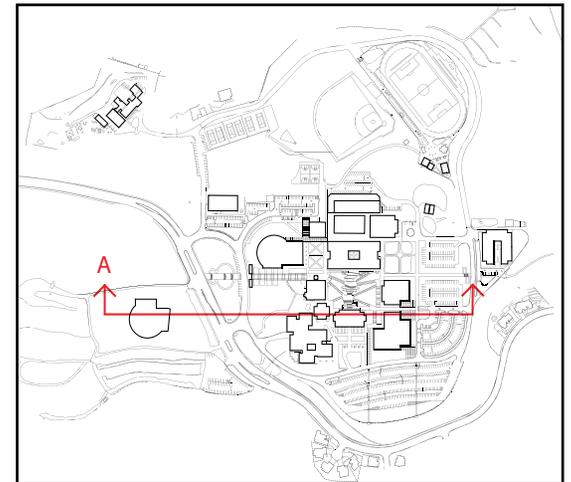
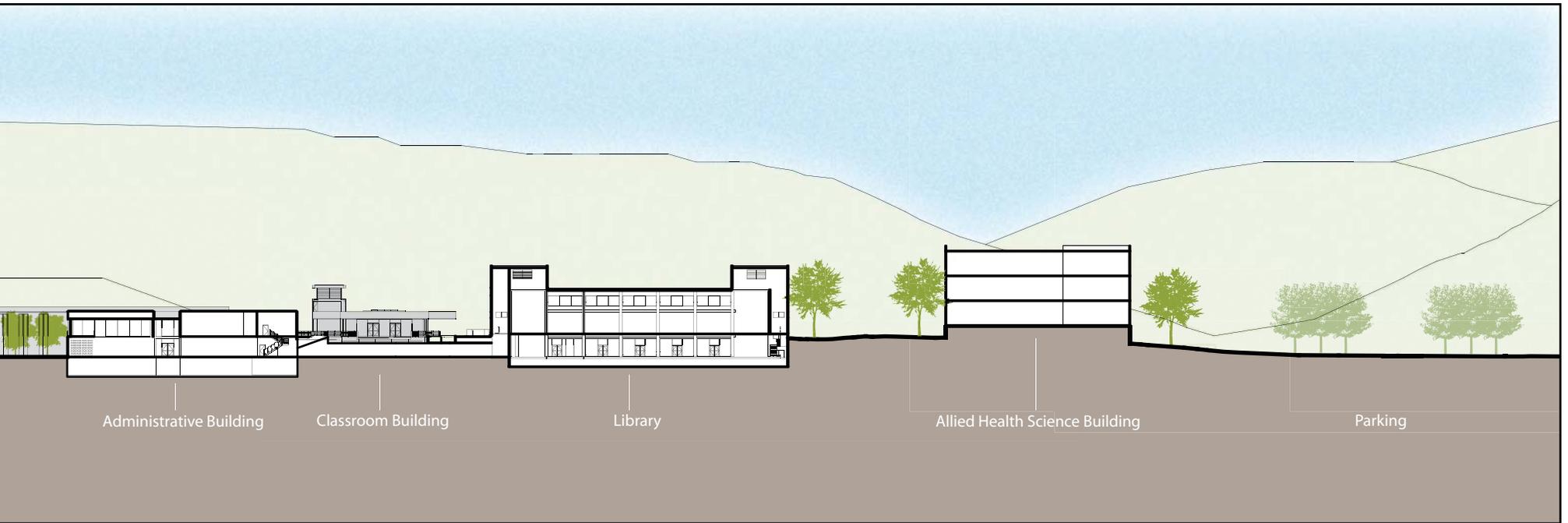
The following site sections reflect how some of the proposed new developments might fit onto the existing campus





PROPOSED SECTION B







Main Campus Gateway



South Entry Plazas - Precedent

Landscape Concept Plan

Main Campus Gateway

The main campus gateway from Campus Drive is strengthened by the continuation of the main east-west axis through the entry drive oval. Signage is reoriented to distinguish the main vehicular entry to the south from the secondary entry to the north.

South of the main campus gateway, native plantings bring the natural area from the southwest across Campus Drive and into the core of the campus west of Buildings R and P.

South Entry Plazas

The area north of Parking Lot C is reinforced as the main pedestrian entryway for those who drive to campus. The existing entry plaza directly east of Building R is mirrored on the other side of the Library plaza, directly west of the proposed Allied Health Science Building. This entry corridor connects to the main Quad via a staircase that mirrors the existing stairs east of the Library. A third entry plaza is located at the southeast corner of the Allied Health Science building, aligning with the north-south axis to the west of the Allied Health Science.

Parking Lot C

The southern portion of Parking Lot C is replaced with a stormwater management zone, containing a bioswale and retention/detention pond. This would be planted as a native wetland habitat. Two observation decks are located at the southern extensions of the north-south axes of the campus. The pathways to these are marked by alleys of trees. These pathways also serve as the main connections from the parking lot to two of the campus entry plazas. The parking lot is shaded with trees.

Eastern Campus

The former Building A site is replaced by parking, which replaces the parking removed for the stormwater management zone in Parking Lot C. From these new parking lots and Parking Lot D, students would enter the campus via an entry plaza on the east side of the Allied Health Science complex, or from the eastern extension of the main east-west axis. A Passageway between the Allied Health Science buildings also provides access to the Quad.

LANDSCAPE PLAN

East of Building D, a naturalistic grove of native trees brings the natural landscape into the campus core. This grove contains a small seating area.

North of the new parking areas, the existing vernal pool area serves as a stormwater management zone for the parking lots on the eastern end of campus.

A vehicular connection is made between the parking lot north of Building F and the area east of Building E.

Northern Campus

A baseball field is incorporated into the northern campus sports fields. An accessible route to the sports fields is provided from the northwestern corner of the proposed Athletic Facility (formerly Building F).

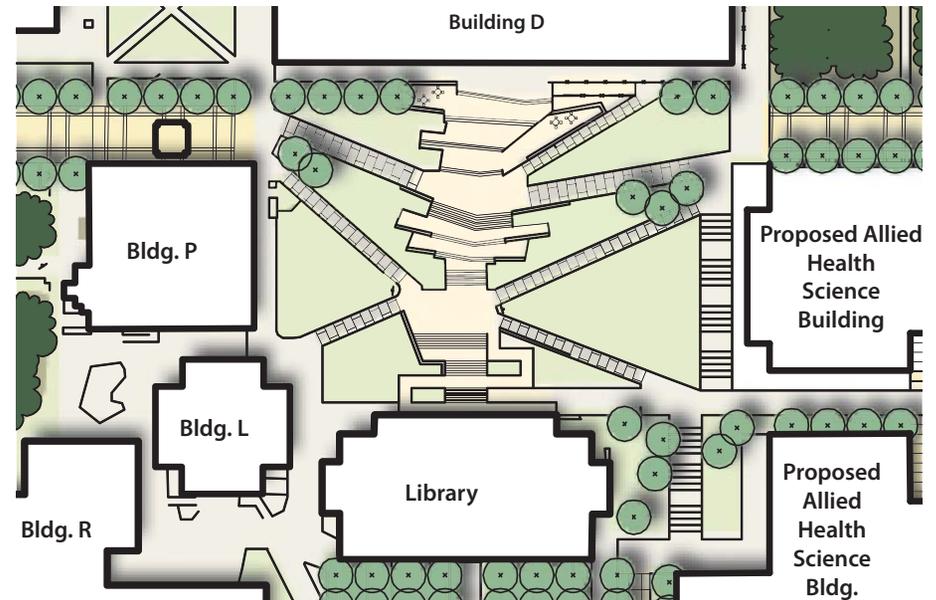
Trees are added north of the tennis courts and baseball field to screen the campus from the residences on the hill above.

An entry plaza south of Parking Lot A leads to the Theater Courtyard.

Central Quad

The essence of the original quad design is respected, while seating areas are added and expanded. Following the original design intent, a stairway from the Library to the Quad is incorporated, with the addition of an accessible ramp. These stairs provide additional areas to sit and congregate, as well as improving access to the Quad from the Library. The east-west axis is maintained as a view corridor through the Quad. This will require the removal of trees that currently obstruct the east-west axis. A hierarchy of paths and gathering spaces is defined through the use of different paving materials.

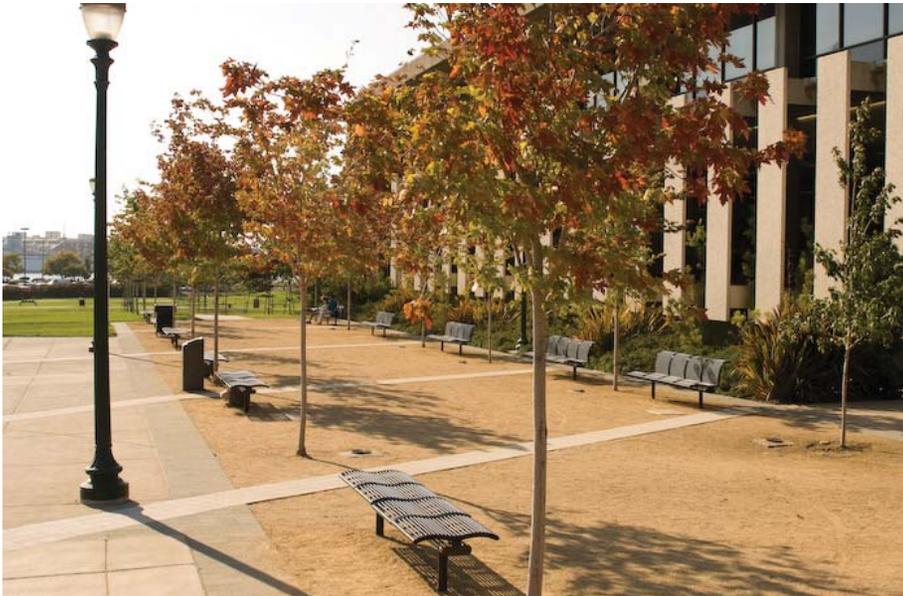
OPEN SPACE ELEMENT



Central Quad-Plan



Seating space - Precedent



Site furnishings - Precedent



Lighting - Precedent

Landscape and Site Design Guidelines

Furnishings

Recent landscape projects on the Merritt campus have set a positive direction for the site furnishings by installing high-quality and consistent furnishings. These recent installations should be used as a model for future projects. In particular, the new benches, signage, and light fixtures (see lighting, below) set a high standard that should be followed. The following furnishings types should follow a similar standard for quality and consistency:

- Outdoor tables with chairs
- Trash and recycling containers
- Bicycle racks
- Bollards
- Drinking fountains
- Newspaper racks and kiosks
- Handrails
- Seatwalls

Lighting

New, high-quality light fixtures have been installed in certain areas of the campus. Older fixtures on campus should be replaced over time with new fixtures of a similar quality. Like fixtures should be used throughout the campus in each outdoor space type (refer to Open Space Framework Diagram). The following are specific recommendations:

- Replace high-pressure sodium (HPS) fixtures with metal-halide fixtures.
- Maintain existing fixtures, replacing parts such as discolored lenses.
- Replace old and inefficient fixtures in parking lots.
- Replace pole-mounted fixtures that have been repaired with wall-mounted fixtures.

Paving

The paving materials should differentiate the different use areas, such as entry plazas, entry axes, the central quad, the entry plaza, and smaller courtyards. A hierarchy of circulation routes should be reinforced with different paving materials, especially in the central quad and entry areas. Distinctive paving materials such as concrete unit pavers or colored and exposed-aggregate paving should be installed. An overall paving concept plan should be developed to direct future repairs and replacement of paving.

Planting

Recently completed plantings on the campus have set a positive trend in the campus's plant palette by using native and drought-tolerant species. Future construction projects should follow this model.

The planting concept should reinforce an overall campus theme that takes advantage of its natural surroundings. Plantings should create restored native vegetation patterns that bring the natural surroundings into the core campus, especially to the southwest and northeast.

The entire campus should be considered a learning environment to support the horticulture program by demonstrating best practices in drought-tolerance and displaying representative native and Mediterranean plant communities in both naturalistic and formal arrangements.

Lawns should remain limited to the areas that are actively used as sports fields or seating areas (i.e., the Quad) should remain.

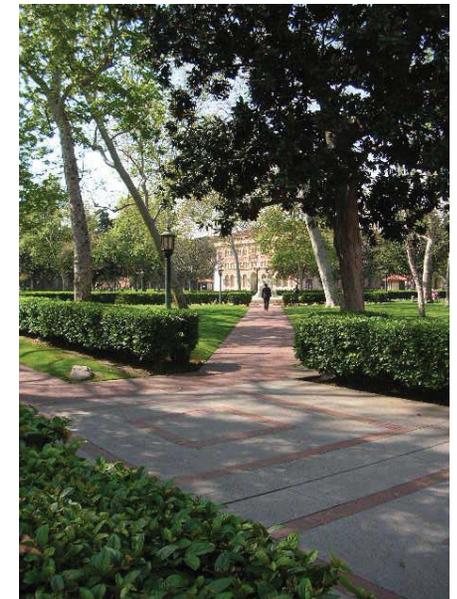
All Plane trees should be replaced. Rather than remove and replant all at once, interplant immediately with 15 gallon or 24" box size specimens. As the trees grow over the next 5-10 years, remove the damaged trees. Prune new trees according to standard pruning practice as established by the American Society of Arboriculture and the American National Standards Institute; do not top the trees.



Paving - Precedent



Paving and lawn - Precedent



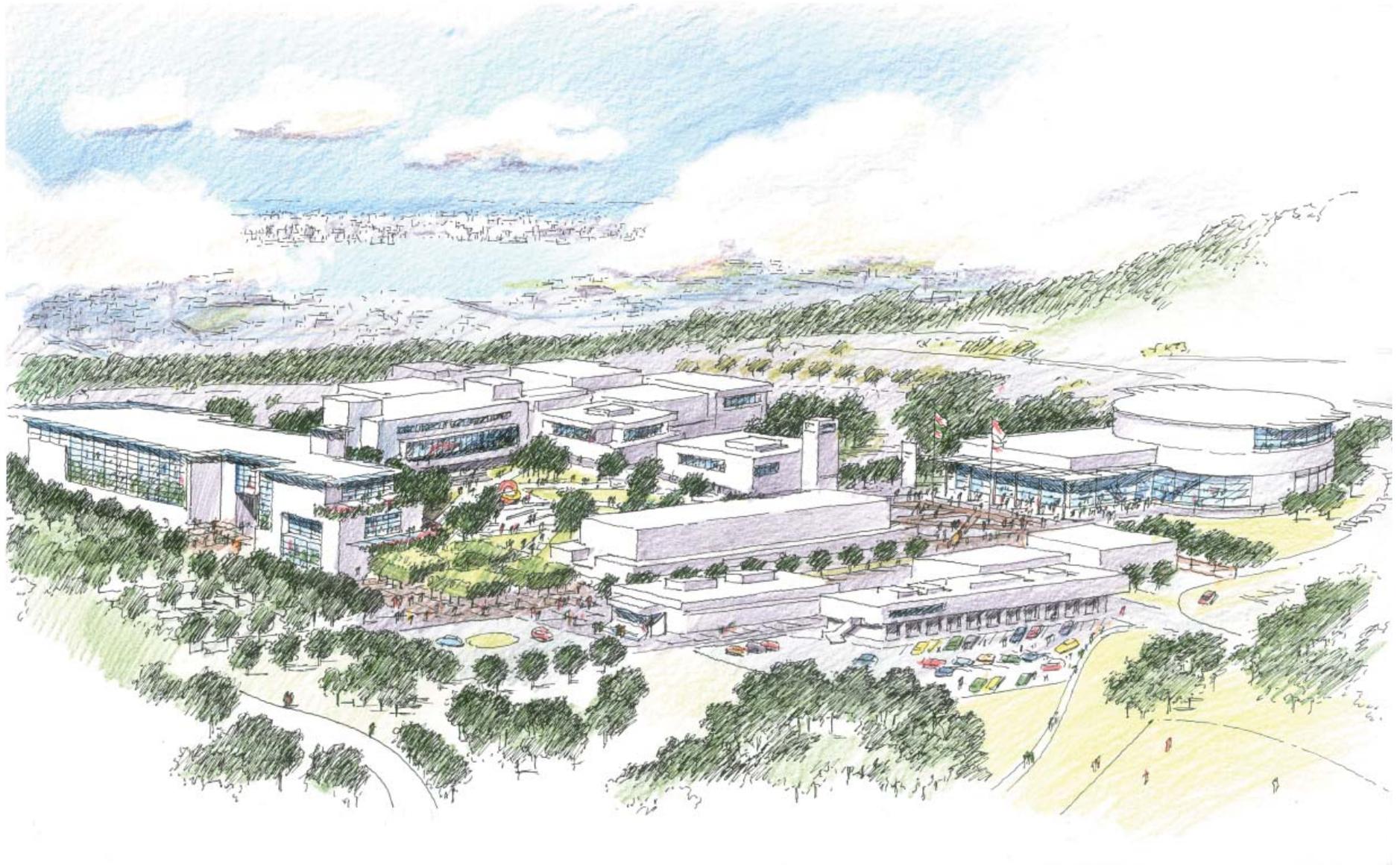
Paving and Planting - Precedent

The Master Plan Perspective is an illustration of what the campus could look like with the recommendations applied that you have already been discussed. The pedestrian axis for circulation has been embellished. The center of the campus has a sloped quad area that provides a focal point from any entry into the campus.

The new buildings clearly reinforce a new identity for the campus. Well designed exterior facades, integrates glazing and operable shading devices, and allows outdoor views that provide connection with the campus sites, as well as adjacent sites, thus creating a more integrated campus and neighborhood.

Community connection is a primary concern for the campus. A strong community connection is not just pedestrian pathways, it is also reflected with ease of access to the site such as the existing bus drop-off, or the enhanced pedestrian walkways from the parking areas. A new building is proposed at the front of the college to form a boulevard prominent pedestrian entry. This gives a new face to the campus, as you drive along Campus Drive.

Pursuant to the Chancellor's directive, every campus of the Peralta Community College District must identify a portion of the campus that could be used in a public - private partnership. This can be revenue generating or joint use agreement projects. The analysis of data and discussions with the college, determined the area where parking lot "B" is located is ideal for future development.



2022 PROPOSED AERIAL PERSPECTIVE

WATER

Existing Conditions

The Merritt College campus is served water by the East Bay Municipal Utility District (EBMUD) through a 12-inch main line (EBMUD Main) that runs through the campus. The line enters the campus just north of the tennis courts within a 20-foot wide EBMUD easement within the Perimeter Road and then onto Campus Road at the northern driveway. There are three connections to the EBMUD Main that serve the campus.

The Children’s Center is served directly off of the EBMUD Main with a 2-inch lateral and a 1.5-inch meter.

The remainder of the campus is served by a single private system that is connected to the EBMUD Main in two locations to form an interior campus loop. Both connections are made with 12-inch laterals, 8-inch meters and a double detector check assembly. One connection is just north of the tennis courts, near where the main enters the campus and the second connection is made near the southern main driveway.

Water pressure is reported by maintenance to be adequate throughout the campus. Faucets examined in each building seemed to verify this assessment. East Bay Municipal Utilities District confirms that the static pressure in this region is 125-psi (pounds per square-inch). This is a very high pressure for domestic water use and we assume that all buildings are equipped with pressure reducing systems or that the double detector check valves are installed with reduced pressure mechanisms.

The sports fields are irrigated by a connection at the northern corner of campus. The field toilets and locker rooms are served domestic service by 2-inch laterals stemming from the 4-inch lateral that heads from the main campus domestic system, southwest towards the field toilets and locker rooms. To the north and west of the sports fields and track, the perimeter road is fed fire service from the 12-inch loop that surrounds the campus.

The Horticulture Center as-built drawings indicate that water service is provided in three locations and indicates existing fire and domestic water facilities in the parking lot.

Master Plan Recommendations

A utility locator should be engaged to identify and document the location of the water supply system to the Horticulture Center.

The fire marshal should review to verify that additional hydrants are not required within the campus core.

A hydraulic review of the overall system should be conducted that accounts for existing and future demands on the system.

GAS

Existing Conditions

The Merritt College campus is served natural gas by a PG&E system, connected across the perimeter road from the tennis courts. At the meter, the service is split into a 3-inch standard and an 8-inch interruptible line.

The lines run through Parking Lot A and then behind (to the west of) Buildings F and E. They then turn to the southwest and feed Buildings A and D.

Buildings P, Q, R and L do not appear to have gas service.

Master Plan Recommendations

Master Plan Athletics Facility. There is a 3-inch gas line which lies west of athletics facility and should function as the gas service for the athletics building. There is a 3-inch gas and a 6-inch inert gas line located underneath the athletics facility. These lines should be rerouted to the north around the building.

Master Plan Children Development Centers. The mentioned 3-inch gas line should be extended south to service both the children development center buildings and the theatre.

Master Plan Student Housing Buildings. There is a 2.5-inch gas line which lies north of the student housing buildings. This line should be extended south to service both of the student housing buildings.

Once PG&E has provided pressure, size and system capacity at the meter, a hydraulic analysis should be conducted that accounts for existing and future demands on the system.

-  New Domestic Water Line
-  Existing Domestic Water Line
-  New Fire Water Line
-  New Gas Line
-  Existing Gas Line
-  Property Line
-  Existing Water Meter
-  Existing Gas Meter
-  Potential Pipe Upsize
-  Reroute Pipe Around Building



PROPOSED FIRE WATER AND GAS SYSTEM

STORM DRAINAGE

Existing Conditions

The Merritt College Campus is situated in the hills of East Oakland. As such, its storm drainage system conveys historical offsite flows through the campus, as well as run-off from the campus itself.

Based on record information, most of the onsite systems were constructed with the original campus construction in the 1960's, with the exception of some polyvinyl-chloride (PVC) lines that were installed with landscaping improvements near the Bus Drop-Off and the Library in 2004. The system appears to have been originally designed to handle the 10-year storm event. Based on FEMA FIRM Maps, the campus is outside the probable 100-year flood plain and should therefore experience minimal inundation due to regional flooding.

The system was designed to convey stormwater from the site to prevent runoff inundation and was installed prior to the requirements for on-site stormwater quantity (hydrograph modification) and quality (current C.3 NPDES provisions) control devices.

The system comprises three separate networks that discharge their respective sub-regions into the City of Oakland Storm Drain system at three (3) locations along Campus Road.

Lot C Sub-Region

The smallest sub-region (Lot C Sub-Region) consists of a single pipe that drains Parking Lot C to Campus Road through an 18-inch reinforced concrete pipe (RCP).

Building R Sub-Region

The second sub-region (Building R Sub-Region) drains the roof and surrounding area of Building R and a portion of the Perimeter Roadway. This system discharges into a City catch basin near the campus's southern driveway on Campus Road.

Main Sub-Region

The third sub-region (Main Sub-Region) drains the majority of the campus and conveys upstream offsite stormwater through the site. This third system is itself split into two basic sub-branches, both of which begin by collecting offsite drainage from two separate tributary drainage sheds.

Main Sub-Region North. The northern-most shed (Main Sub-Region North) encompasses approximately 100-acres stretching up to Skyline Boulevard to the east. Main Sub-Region North is dissipated in a series of terraces and concrete leader ditches before entering a 42-inch RCP near the football field. This system runs across the football field, where it picks up a system of 8" concrete pipes that drain the field itself, and then runs into the Perimeter Road past the Tennis Courts, where it picks up a smaller branch from the Horticulture Unit and turns south, along the northwest face of the Children's Center building.

Within the Main Sub-Region North, the Horticultural Center is surrounded on its northern perimeter by a concrete gutter that drains to two catch basins. The catch basins convey stormwater through a 12-inch RCP to the manhole at the northern corner of the perimeter road, then southwesterly along the perimeter road, finally joining the rest of the system near the Children's Center. Additionally, the Horticultural Center building itself has roof leaders that discharge through the faces of the surrounding curbs.

The road leading up to the horticultural area is steep. Runoff that does not flow toward the northern perimeter, eventually sheet flows to the south and down this steep section of road, entering the storm drain system in a catch basin located at the northern corner of the perimeter road. Through a 12-inch RCP, the drainage is then conveyed to the nearby manhole, and then southwesterly along the perimeter road until it joins the rest of the Main Sub-Region North near the Children's Center.

Main Sub-Region South. The smaller and southern offsite shed (Main Sub-Region South) encompasses approximately 15-acres and is picked up at the east side of Parking Lot E in a 21-inch RCP. This branch runs northwesterly, adjacent to the core of the campus, increasing to a 33-inch RCP after it picks up several smaller branches from within the campus core. It then goes through and collects run-off from Parking Lots A and G and the Children's Center Parking Lot. It picks up one final branch that drains the Bus Drop-off area before connecting with the 42-inch branch described earlier.

Main Sub-Region South also receives drainage from the sports and soccer fields system, which is drained by a system of perforated plastic pipe and unreinforced concrete pipe, along with concrete gutters around the perimeter. The system joins the main campus system at a drop manhole/area drain in the parking lot just northwest of Building F.

The entire system discharges to a catch basin on the north side of the northern driveway on Campus Road, which subsequently discharges into Horseshoe Creek between Parking Lot B and Campus Road.

As indicated in the existing conditions and assessment report, roofs of buildings drain through rain water leaders into 4-inch perforated metal pipes before entering the unreinforced concrete pipes and then the larger reinforced concrete pipes. Operations and maintenance personnel indicate that rain water leaders often plug. As they were constructed with perforated metal pipe, it is likely that many of these have corroded beyond their service life or become clogged with debris.

The system generally conveys stormwater effectively, though there are small areas of ponding during and after storm events due to undersized inlets, cracked or uneven pavement, and cracked or uneven curb and gutter sections that have heaved above tree roots and that result in new low points. The more extreme cases have resulted in erosion problems where the ponding water spills down a natural hillside before reaching an inlet to the underground storm drainage system. The hillside below Parking Lot C has experienced a significant amount of erosion due to undersized inlets and concentrated runoff down the steep slopes.

As the underlying soil conditions are basically bedrock, reinforced concrete pipes are expected to have a service life of approximately 100-years if properly maintained. The unreinforced concrete pipes and cast iron pipes are likely nearing the end of their service life. The reinforced concrete pipes are expected to be in serviceable condition, although a video inspection noted large rocks in the lines north of Building F and a broken pipe, an offset joint, mud and minor roots in the system beneath Parking Lot D.

Lack of an adequate overland release presents the existing condition of greatest concern. It is unclear where the path of runoff flow for the main core of the campus occurs and if it is low enough to allow water to exit the area before inundating any buildings in the event the underground drainage system were to clog or break. Building D in particular has experienced frequent inundations resulting from clogs in a single, small catch basin on its south side.

Master Plan Recommendations

The Master Plan proposes to add impervious surface area in the form of new student housing buildings, child development centers, theatre, athletics facility and parking facilities. All of these new facilities with the exception of the athletics facility will replace previously pervious surface area with impervious improvements.

Master Plan Student Housing. The Housing Area would connect to the 15-inch storm drain line located to the northeast.

Master Plan Child Development Center and Theatre. The westerly child development center and the theatre will require a new storm drain line that connects to the 33-inch line located north westerly from these buildings.

Master Plan Athletics Facility. A 21-inch storm drain line would need relocating/upsizing to accommodate the Athletics Facility. The athletics facility could then use this newly rerouted line to serve its stormwater needs.

Per the Master Plan, existing Building A will be demolished and replaced by a parking facility. The existing system of 12-inch RCP lines that surround the existing building should be utilized to drain the new parking facility.

Additional Recommendations

All new impervious surfaces, even those that replace existing impervious surfaces that were removed, should be treated for compliance with section C.3 of the City of Oakland's National Pollutant Discharge Elimination System (NPDES) Permit with the California State Water Board. This can be accomplished with a combination of bio-swales and bioretention areas between the new library and the Merritt Channel.

A topographic survey that measures and records elevations should be performed in the area around Building F to verify that there is adequate overland release for the campus.

A sampling of the 4-inch perforated metal pipe that connects to the rain water leaders should be excavated and examined in an area where back ups occur. All unreinforced concrete pipe and cast iron pipe should be replaced with PVC or HDPE pipe.

The Master Plan implementation may increase the peak and total amount of stormwater runoff from the campus. A detailed hydrology/hydraulic study should be conducted to determine how the campus can retain/detain runoff to alleviate any increases in flow to the downstream system.

SANITARY SEWER

Existing Conditions

Sewage at Merritt College is collected and conveyed in a gravity system that ties into the 8-inch City of Oakland main line in Campus Road, just to the north of the northern entrance of the campus. The system consists of an 8-inch backbone trunk line (Backbone Main) that runs along the northwest edge of the campus core, adjacent to Building F and through parking lot A and the Children’s Center parking lot. There are five (5) branches that serve the campus, three of which serve the Campus Core to the south, and the other 2 serve the Horticulture Center and the Sports Fields to the north.

Of the branches that serve the main campus, the furthest west serves Building R. From there it runs into the main campus road, north into the drop-off area where it picks up another lateral at a manhole near the bus stop that was constructed to serve a future music and theatre building that was never constructed, and continues northeast and enters the Backbone Main just south of the Children’s Center.

The next branch to the east runs northeasterly along the southeast face of buildings R, Q, and P. It enters the Backbone Main northwest of building F.

The furthest east branch serves Buildings A and E and the eastern side of Building D. There is also a stub to a planned building site southwest of Building A.

To the north, there is a 6-inch branch (size unconfirmed by record drawings) that serves the Horticulture Center (H Branch). There is an additional 6-inch branch (T Branch) that serves the track and field area.

A video inspection was conducted during the week of May 19, 2008 and noted root intrusions and an area where the camera became submerged in F-Line, southeast of Building Q. We presume that this sag condition in the line could be a structural deficiency that could cause regular blockages. Also noted was root intrusion in the line that serves Building E and a low spot (“sag”) in the line west of Building D.

Master Plan Recommendations

The Master Plan proposes to add 6 buildings all of which would require sewer connections.

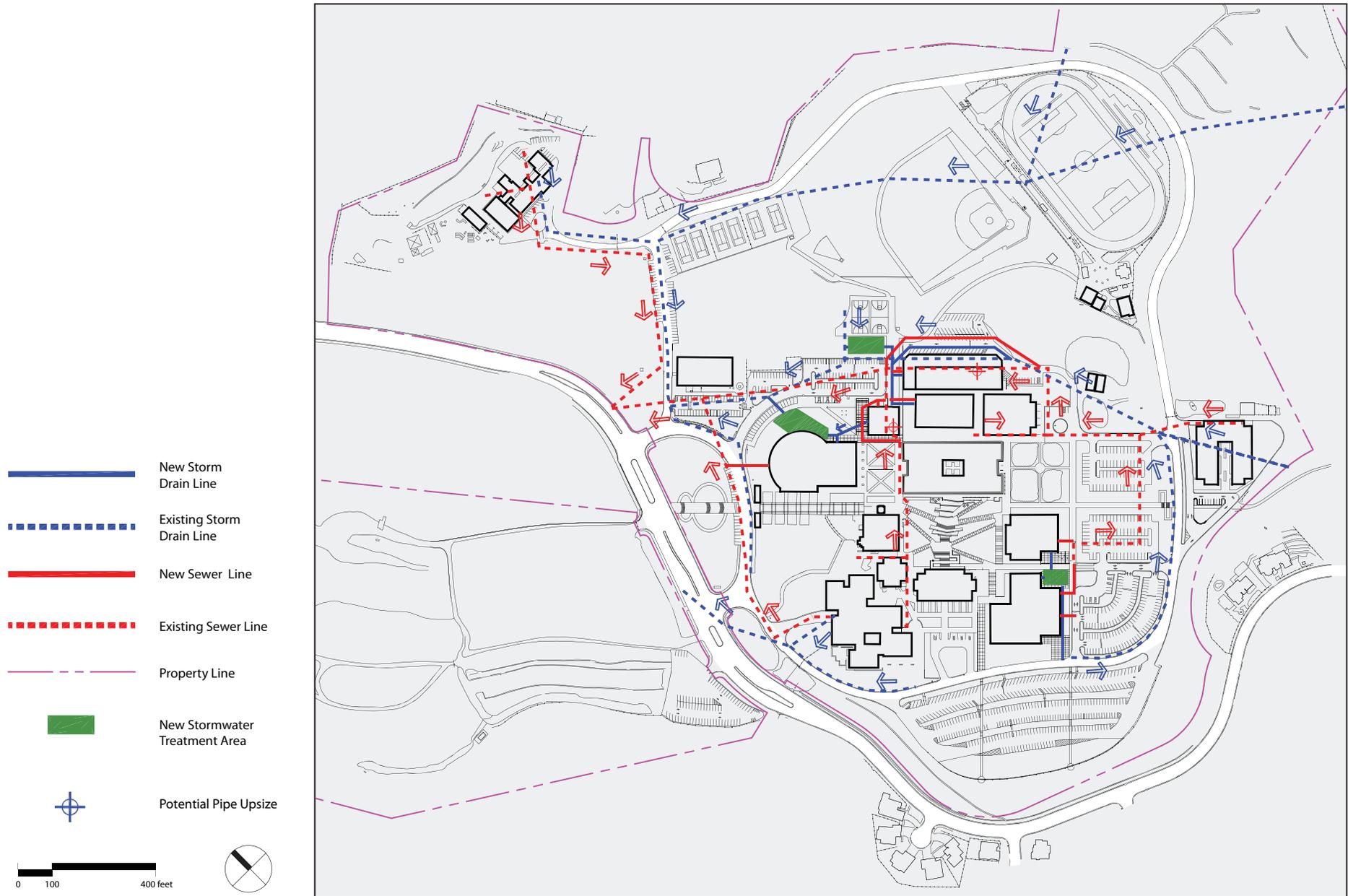
The 8-inch sewer line which borders the west boundary of the campus should serve as the planned Theatre’s sewer connection. A new sewer lateral should be installed to connect this building to this line.

The Master Plan’s Eastern Child Development Center would require a connection to the existing 6-inch sewer line located near the west end of the building. The Master Plan Western Child Development Center is located over the aforementioned existing 6-inch sewer line. Therefore, the line would require relocating and potential upsizing (to accommodate the added flow and length) around this building prior to the building’s construction. This rerouted line would also serve as the sewer connection for the Center and could potentially need to be upsized to accommodate the added system demand.

The Master Plan Athletics Facility is located over the existing 8-inch sewer line. The line would require relocating and potential upsizing (to accommodate the added flow and length) around this building prior to the building’s construction. This rerouted line would also serve as the sewer connection for the Facility. In addition, the Master Plan Student Housing Buildings could also be served by this 8-inch line. Because of this increase in system demand, the mentioned 8-inch line could potentially need to be upsized.

The F-Line should be cleared and the video inspection should be repeated after the line is clear to identify the cause of the standing water. If there is a structural deficiency in the pipe in this location, the pipe should be replaced.

Pipes with significant infiltration/leakage should be removed and replaced with polyvinylchloride (PVC) or HDPE pipes.



PROPOSED STORM DRAIN AND SANITARY SEWER SYSTEM

OVERVIEW

Interface Engineering conducted a surface-based site investigation of the Merritt College Campus for the purpose of assessing the Mechanical, Plumbing, Electrical and Technology Systems. The assessment of the campus led to an analysis of the existing conditions and recommendations on how to improve the state of each system.

The following pages outline the Masterplan of the Mechanical, Plumbing, Electrical and Technology systems based on the analysis of the existing conditions, programming changes, energy conservation measures, service life of equipment and code related issues. A graphical representation of the site is provided, showing the MEP infrastructure for new systems as well as a written description of recommendations for each individual building.

Mechanical/Plumbing Infrastructure

A campus-wide primary and secondary heating hot water system originates from the Boiler Room. A heating hot water supply/return pipes start from this Boiler Room and create a closed loop around the core buildings with the water pressure maintained at optimum pressure by a primary pumping system. The hydronic distribution for each building served is kept pressurized by the building's circulating pumps. In addition, the Boiler Room is the main source of plumbing utilities such as potable hot water, natural gas, compressed air for controls and shops. The equipment varied in ages and condition. As part of the Master Plan, the following is recommended for the Boiler Room:

1. Perform destructive tests of each existing piping system looped around the core buildings of the campus and main piping above ground serving these buildings.
2. If the destructive tests performed on each of the piping system results in upgrading or replacing the piping system, the addition of a chilled water system is recommended to provide cooling for the campus.
3. Replace the existing domestic hot water system components including the storage tanks, water heaters, circulating pumps, and piping system within the Boiler Room.
4. Install mechanical ventilation and exhaust system to serve the Boiler Room space.
5. Preventative maintenance program should be done periodically on the existing boilers and pumps.
6. Replace or convert all pneumatically-controlled mechanical system with Direct Digitally Controlled system.
7. Upgrade the existing boiler with Low NoX retrofit kit that is available from boiler manufacturer within the next 5 years in order to comply with the Bay Area Air Quality (BAAQMD) requirement.

Electrical Infrastructure

The campus is served from a 12kV underground line running along West Campus Drive owned by Pacific Gas and Electric. The service is a secondary service with exterior above ground primary metering and switchgear unit located adjacent to the Tennis Courts. The service is then routed to substations located throughout the camps. With the exception of one, all other substations are located in underground vaults. All equipment was installed over 30 years ago and is past its useful service life. As part of the Masterplan, it is recommended to:

1. Provide a new Main Switchboard in all buildings to be installed in conformance with current codes. The utility transformer may require relocating depending on the final location of the new Science Building. Existing feeders are to be intercepted and extended to the location of the new Switchboard.
2. Examine the condition of existing underground feeders to ensure no lead cables are in place. Replace all lead cable and damaged conduits. Provide new pullboxes as required.
3. Perform load readings on the existing distribution system to determine available capacity to accommodate new loads.
4. When modernizing substation equipment consider installations above ground.

4. The State of California is requiring reduced energy use in State-owned facilities and directing The Division of the State Architect (DSA) to encourage schools being built with State funds to be resource and energy efficient. To this end, DSA is calling out to all California school districts and community college districts to make their schools grid neutral: “a site that produces at least as much electricity as it consumes in a year.” As part of the Masterplan it is important to consider some steps to becoming grid neutral:
 - a. Based on load readings determine the size of Renewable Energy Systems required for “Grid Neutral” designs.
 - b. Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality either for the entire campus if space permits or on a building by building basis.
 - c. Implement a system to accurately monitor energy use and system performance.

Technology Infrastructure

In 1998, Project 152 addressed the need for upgrading the fire alarm and security systems. As part of this project, (4) 4” conduits were distributed in a star topology providing pathway from the campus Main Equipment Room (MER) to each Main Distribution Frame (MDF) in each building. From there conduits were distributed to Intermediate Distribution Frames (IDF’s) where needed. Fiber optic cable was installed at that time to provide connection between MER and the MDF’s/IDF’s. This project also added air conditioning units to each MDF/IDF to maintain constant temperature, imperative for sensitive electronic equipment.

In 2001, a new project was launched to install Emergency call phones providing a new level of security to students and staff on campus. Multi-pair copper cable was distributed from MDF’s/IDF’s to support connection to emergency services. During this improvement a backbone infrastructure was installed to provide a wireless network distribution system.

The existing Technology Infrastructure is in good condition; as part of the Masterplan, it is recommended to:

1. Provide seismic bracing for equipment racks in the all MDFs and IDFs.
2. Provide proper grounding and bonding in all MDFs and IDFs.
3. Assess existing capacity to support increased number of Interactive Learning Environment (Smart) Classrooms. Provide additional technology and electrical infrastructure based on those findings.

KEYNOTES

- 1 Location of new above ground Substation 'B.'
- 2 Location of new Substation 'C.'
- 3 Location of new above ground Substation 'D.'
- 4 Provide new stand alone utilities.
- 5 Connect new HVAC system to existing piping from Central Plant.
- 6 Provide new stand alone HVAC system.
- 7 Electrical served from new Substation 'B.'
- 8 Electrical served from new Substation 'D.'
- 9 Electrical served from new Substation 'C.'



PROPOSED INFRASTRUCTURE PLAN

ELECTRICAL RECOMMENDATIONS:

Building A

- No action required due to demolition of existing building.

Child Care Center

- Replace antiquated 400A, 120/208V, 3 phase, 4 wire distribution panel and downstream electrical equipment with new equipment.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Perform load readings to determine the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A "Grid Neutral" design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof or at ground level adjacent to the building to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public

spaces, and large open areas.

- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Building D

- Replace antiquated electrical distribution equipment with new equipment.
- Provide additional electrical distribution equipment to accommodate remodel and new programming spaces.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Verify if the existing 1600A, 277/480V, 3 phase, 4 wire electrical service is sufficient to provide power for the new programming spaces.
- Perform load readings on existing distribution system to determine available capacity to accommodate new loads.
- Determine based on load readings the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A "Grid Neutral" design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps

and integral emergency ballasts where generator power is unavailable.

- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylit zones for energy conservation.

Building E

- Replace antiquated 600A, 120/208V, 3 phase, 4 wire distribution panel and downstream electrical equipment with new equipment.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Perform load readings to determine the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A "Grid Neutral" design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof or to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps

and integral emergency ballasts where generator power is unavailable.

- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylit zones for energy conservation.

Building F

- Replace antiquated electrical distribution equipment with new equipment.
- Provide additional electrical distribution equipment to accommodate remodel and new programming spaces.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Verify if the existing 800A, 277/480V, 3 phase, 4 wire electrical service is sufficient to provide power for the new programming spaces.
- Perform load readings on existing distribution system to determine available capacity to accommodate new loads.
- Determine based on load readings the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve

grid neutrality where possible given physical space constraints on the campus.

- A “Grid Neutral” design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Horticulture Building

- Replace antiquated electrical distribution equipment with new equipment.
- Provide additional electrical distribution equipment to accommodate remodel and new programming spaces.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Verify if the existing 400A, 120/208V, 3 phase, 4 wire electrical service is sufficient to provide power for the new programming spaces.
- Perform load readings on existing distribution system to determine available

capacity to accommodate new loads.

- Determine based on load readings the size of Renewable Energy Systems required for a “Grid Neutral” design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A “Grid Neutral” design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof or on the ground adjacent to the building to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Building L

- Replace antiquated electrical distribution equipment with new equipment.
- Provide additional electrical distribution equipment to accommodate remodel

and new programming spaces.

- Upgrade installation of electrical equipment to conform to current Code requirements.
- Verify if the existing 600A, 277/480V, 3 phase, 4 wire electrical service is sufficient to provide power for the new programming spaces.
- Perform load readings on existing distribution system to determine available capacity to accommodate new loads.
- Determine based on load readings the size of Renewable Energy Systems required for a “Grid Neutral” design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A “Grid Neutral” design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.

- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylit zones for energy conservation.

Building P

- Replace antiquated 600A, 120/208V, 3 phase, 4 wire distribution panel and downstream electrical equipment with new equipment.
- The third floor of Building P has been previously modernized and all electrical equipment, lighting, and devices will remain.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Perform load readings to determine the size of Renewable Energy Systems required for a “Grid Neutral” design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A “Grid Neutral” design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof to supplement the incoming electrical service.
- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.

- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Building Q

- Replace antiquated electrical distribution equipment with new equipment.
- Presently, Building Q consists of several branch circuit Panelboards served from Building R. Provide a new Distribution Panel fed from Building R to serve new branch circuit Panelboards in Building Q in lieu of feeding multiple branch circuit Panelboards from Building R. Provide additional electrical distribution equipment to accommodate remodel and new programming spaces.
- Upgrade installation of electrical equipment to conform to current Code requirements.
- Perform load readings on existing distribution system in Building R to determine available capacity to accommodate new loads.
- Determine based on load readings the size of Renewable Energy Systems required for a “Grid Neutral” design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality where possible given physical space constraints on the campus.
- A “Grid Neutral” design may not be achievable due to limitations in the existing conditions but a Photovoltaic System can be installed on the roof to supple-

ment the incoming electrical service.

- Implement a system to accurately monitor energy use and system performance.
- Replace existing lighting with new energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Evaluate egress lighting system and upgrade system as required to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Allied Health and Science Building

- Provide 1600A, 277/480V, 3 phase, 4 wire service from new Substation C. Perform detailed load calculations to verify service size and provide electrical distribution equipment to accommodate all loads.
- Determine based on load calculations the size of Renewable Energy Systems required for a “Grid Neutral” design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality.
- Implement a system to accurately monitor energy use and system

performance.

- Provide lighting with energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Provide egress lighting system to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylit zones for energy conservation.

Student Housing

- Provide 1000A, 277/480V, 3 phase, 4 wire service from new Substation C. Perform detailed load calculations to verify service size and provide electrical distribution equipment to accommodate all loads.
- Determine based on load calculations the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality.
- Implement a system to accurately monitor energy use and system performance.
- Provide lighting with energy efficient luminaires using T5 lamps and integral

emergency ballasts where generator power is unavailable.

- Provide egress lighting system to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylit zones for energy conservation.

Child Development Center

- Provide 400A, 277/480V, 3 phase, 4 wire service from new Substation B. Perform detailed load calculations to verify service size and provide electrical distribution equipment to accommodate all loads.
- Perform load readings on existing distribution system presently fed from Substation B to determine available capacity to accommodate new loads.
- Determine based on load calculations the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality.
- Implement a system to accurately monitor energy use and system performance.
- Provide lighting with energy efficient luminaires using T5 lamps and integral

emergency ballasts where generator power is unavailable.

- Provide egress lighting system to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Swimming Pool

- Provide 600A, 277/480V, 3 phase, 4 wire service from new Substation B. Perform detailed load calculations to verify service size and provide electrical distribution equipment to accommodate all loads.
- Perform load readings on existing distribution system presently fed from Substation B to determine available capacity to accommodate new loads.
- Determine based on load calculations the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality.
- Implement a system to accurately monitor energy use and system performance.
- Provide lighting with energy efficient luminaires using T5 lamps and integral

emergency ballasts where generator power is unavailable.

- Provide egress lighting system to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylight zones for energy conservation.

Theater

- Provide 1200A, 277/480V, 3 phase, 4 wire service from new Substation D. Perform detailed load calculations to verify service size and provide electrical distribution equipment to accommodate all loads.
- Perform load readings on existing distribution system presently fed from Substation D to determine available capacity to accommodate new loads.
- Determine based on load calculations the size of Renewable Energy Systems required for a "Grid Neutral" design as defined by the Division of the State Architect (DSA).
- Install a Renewable Energy System such as a Photovoltaic System to achieve grid neutrality.
- Implement a system to accurately monitor energy use and system performance.

- Provide lighting with energy efficient luminaires using T5 lamps and integral emergency ballasts where generator power is unavailable.
- Provide egress lighting system to meet minimum one footcandle illumination at floor level.
- Provide lighting controls mounted in conformance with ADA requirements.
- Provide low voltage lighting control panels for control of exterior lighting, public spaces, and large open areas.
- Provide occupancy sensors in private offices, classrooms, storage rooms, and other small enclosed areas for energy conservation.
- Provide automatic dimming of luminaires in daylit zones for energy conservation.

Baseball Field

- Extend power from existing football field to serve new lighting and miscellaneous power requirements.

MECHANICAL AND PLUMBING RECOMMENDATIONS:

Building A

- No action required due to demolition of existing building.

Child Care Center

- Provide new high efficiency package rooftop units with gas heating and electric cooling.
- Provide DDC control system.
- Provide new general exhaust systems fans for all public restrooms.
- Provide new exhaust systems for food preparation services.
- Provide new gas powered domestic water heaters with circulating pumps.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Building D

- Provide new air handling units (AHUs) equipped with heating and cooling coils, integral economizer and Variable Frequency Drive (VFD) fan motors.
- Perimeter zones or areas to be provided with VAV boxes equipped with reheat coils and Direct Digital Controls (DDC).
- Provide all new hydronic piping system with VFD hydronic pumping systems.
- Provide radiant heating
- Implement LEED design for schools.
- Install airflow monitoring systems.
- Provide new large capacity water storage tanks with circulating pumps for domestic hot water service.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Building E and F

- Replace existing AHU with new 100% outside air AHUs equipped with DDC controls and VFD fan motors.
- Replace all existing fan (EF) with new.
- Install new exhaust fan in a separate mechanical room or enclosure.
- Replace existing pneumatic controls with new DDC system.
- Replace all existing hydronic pumps with new.
- Install airflow monitoring systems.
- Implement LEED design for school.
- Provide new large capacity water storage tanks with circulating pumps for domestic hot water service.
- Replace all existing plumbing fixtures with new low flow, low water consumption per District Standards and LEED requirements.ATHLETIC FACILITY, GYM
- Replace existing AHU with new 100% outside air AHUs equipped with DDC controls and VFD fan motors.
- Replace all existing fan (EF) with new.
- Install new exhaust fan in a separate mechanical room or enclosure.
- Replace existing pneumatic controls with new DDC system.
- Replace all existing hydronic pumps with new.
- Install airflow monitoring systems.
- Implement LEED design for school.
- Provide large capacity water storage tanks with circulating pumps for domestic hot water service.
- Replace all existing plumbing fixtures with new low flow, low water consumption per District Standards and LEED requirements.

Horticulture Building

- Provide new high efficiency package rooftop units with gas heating and electric cooling.
- Provide DDC control system.
- Provide new hydronic system with high efficiency boiler to service new greenhouse spaces.
- Provide new supply fans to serve new greenhouse spaces.
- Provide new general exhaust systems fans for all public restrooms.
- Provide gas powered domestic water heaters with circulating pumps.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Building L

- Replace existing air handling units (AHUs) with new AHUs equipped with heating and cooling coils, integral economizer and Variable Frequency Drive (VFD) fan motors.
- Demolish all existing HVAC system in each of the mechanical penthouses, including exhaust fans, ductwork and miscellaneous piping
- Provide all new ductwork
- Replace all existing exhaust fans (EF) with new.
- Implement LEED design for schools.
- Install airflow monitoring systems.
- Install new VAV boxes with reheat coils for all perimeter zones with Direct Digital Controls (DDC)

- Provide all new hydronic piping system
- Install new hydronic pumps.
- Provide large capacity water storage tanks with circulating pumps for domestic hot water service.
- Replace all existing plumbing fixtures with new low flow, low water consumption per District Standards and LEED requirements.

Building P and Q

- Replace existing constant volume air handlers with high efficiency package rooftop units with gas heating and electric cooling.
- Provide DDC control system.
- Provide new general exhaust systems fans for all public restrooms.
- Provide new gas powered domestic water heaters with circulating pumps.
- Replace all existing fans (EF) with new.
- Implement LEED design for school.
- Install airflow monitoring systems.
- Provide new gas powered domestic water heaters with circulating pumps.
- Replace all existing plumbing fixtures with new low flow, low water consumption per District Standards and LEED requirements.

Allied Health Science Building

- Provide new high capacity air handling units with heating and cooling coils, integral economizer and VFD fan motors.
- Provide 4-pipe fan coil system for each classroom.
- Provide central laboratory exhaust fans with VFD fan motors. Exhaust fans to be mounted on the roof. Approximately (4) 10,000 CFM exhaust fans.
- Provide Phoenix control valves for each lab's hood.
- Provide dedicated exhaust for all chemical storage rooms.
- Provide emergency combination eyewash and shower station for each classroom.
- Provide acid resistance lab sinks for each classroom.
- Provide separate acid waste piping systems.
- Provide acid neutralizer tank.
- Provide large capacity water storage tanks with circulating pumps for domestic hot water service.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Student Housing

- Provide new air handling units with heating and cooling coils, integral economizer, VFD fan motors for common areas.
- Provide 4-pipes fan coil for each living space.
- Provide radiant heating for each space via radiant floors or radiant wall panels.
- General exhaust fans to be mounted on the roof for private and public rooms and janitor closets.

- Provide gas powered domestic water heaters with circulating pumps.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Child Development Center (New)

- Provide new high efficiency package rooftop units with gas heating and electric cooling.
- Provide DDC control system.
- Provide new general exhaust systems fans for all public restrooms.
- Provide new exhaust systems for food preparation services.
- Provide new gas powered domestic water heaters with circulating pumps.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Theater / Fine Arts Facility

- New air handling units (AHUs) equipped with heating and cooling coils, integral economizer and Variable Frequency Drive (VFD) fan motors.
- Perimeter zones or areas to be provided with VAV boxes equipped with reheat coils and Direct Digital Controls (DDC).
- Provide all new hydronic piping system with VFD hydronic pumping systems.
- Provide radiant heating
- Implement LEED design for schools.
- Install airflow monitoring systems.
- Provide large capacity water storage tanks with circulating pumps for domestic hot water service.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Swimming Pool

Indoor Pool

- New air handling units (AHUs) equipped dehumidification system, heating and cooling coils, integral economizer and Variable Frequency Drive (VFD) fan motors.
- Provide all new hydronic piping system with VFD hydronic pumping systems.
- Provide dedicated exhaust for all chemical storage and pool equipment rooms.
- Provide large capacity water storage tanks with circulating pumps for domestic hot water service.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Outdoor Pool

- Provide all new hydronic piping system with VFD hydronic pumping systems.
- Provide dedicated exhaust for all chemical storage and pool equipment rooms.
- Provide large capacity water storage tanks with circulating pumps for domestic hot water service.
- Provide low flow/low water consumption plumbing fixtures per District Standards and LEED requirements.

Administration Building

- Replace existing air handling unit (AHU) with new Direct Digital Controls (DDC) and Variable Frequency Driver (VFD) systems complete with integral economizer.
- Replace all existing fan (EF) with new.
- Install new exhaust fan in a separate mechanical room or enclosure.
- Replace existing pneumatic controls with new DDC system.
- Replace all existing hydronic pumps with new.
- Install new VAV boxes with DDC control and reheat coils for all perimeter zones.
- Install airflow monitoring systems.
- Implement LEED design for school.
- Provide new gas powered domestic water heaters with circulating pumps.
- Replace all existing plumbing fixtures with new low flow, low water consumption per District Standards and LEED requirements.

TECHNOLOGY RECOMMENDATIONS:

Building A

- Prepare backbone cable (fiber/copper) for demolition phase

Building D

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs
- Provide new MDF/Server room on second floor of "D" building:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for MDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building G

- Provide centralized clock system
- Provide emergency announcement system
- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building H

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs
- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for MDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building F

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs
- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building L

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source input

- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building P

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs
- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building Q

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs
- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building R

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs

- Provide IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
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Building New Allied Health and Science Building

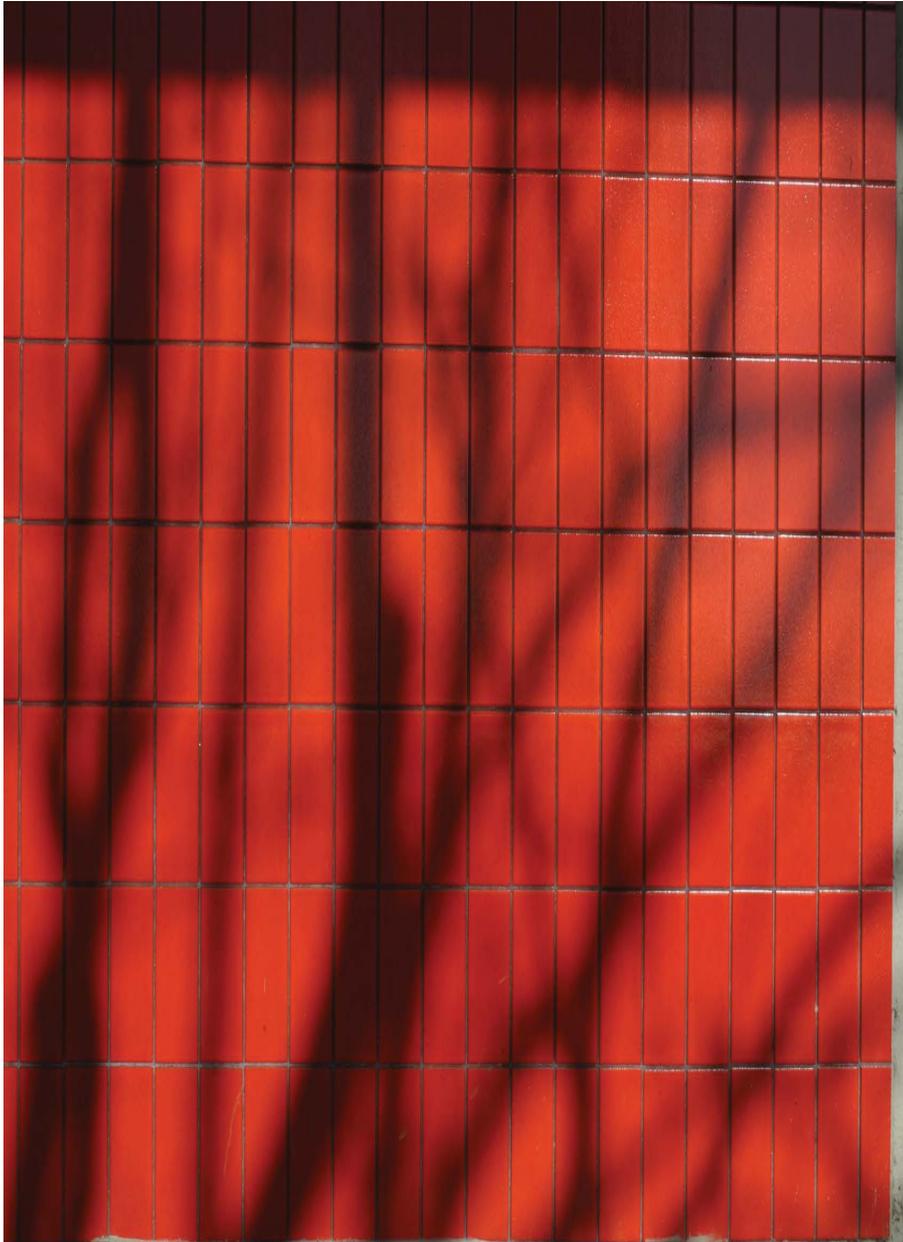
- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- Provide new backbone conduits to support new buildings

- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs
- Provide new IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming

Building New Child Development Center

- Provide centralized clock system
- Provide emergency announcement system
- Provide closed circuit television cameras (CCTV) where appropriate
- Provide new backbone conduits to support new buildings
- All classrooms to be smart classrooms including:
 - Permanently installed projector and projector screen
 - Permanently installed SMART boards
 - Permanent installation of audio equipment for supporting visual presentation systems
 - Standardized source selection switch for audio/visual source inputs

- Provide new IDF closets:
 - Equipment racks to be seismically braced to zone 4 standards
 - Provide wire management at equipment racks
 - Dedicated cooling 24/7
- Provide access control system for IDF room
- Provide new tele/data devices to accommodate remodeled and new programming



An effective campus signage program is intended to provide visitors, new students, faculty, and staff with the information needed to find and arrive at their destinations timely and with ease. It is intended to convey a level of professionalism at all levels of application and enhance the student's, visitor's, and staff/faculty's experience while visiting the campus. Sign planning and implementation is based on a strategy that allows adaptability to the various campus' site conditions and architectural environments as well as establishing a consistent and visible identity and image from campus to campus that combines the PCCD values.

The Peralta Community College District has produced signage standards which may be found in the *Peralta Community College District Signage Standards Manual*.

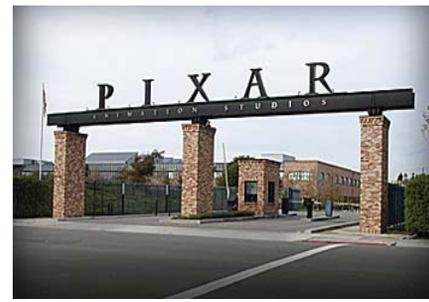
Identity: Existing

Throughout the campus, it is apparent that the existing signage lacks continuity. There exists an entry monument. However, it lacks prominent visibility as you approach the campus from Campus Drive.



Identity: Visible

Strong, visible identity allows for campus individualism. Campus identification signage helps create a sense of place. Consistent and cohesive use of materials, colors, and type contribute greatly to a strong campus identity and sense of place.





Above are examples of existing campus signage. The signs are graphically inconsistent and non-cohesive. Cohesiveness needs to be established throughout the campus.

Wayfinding

Development of a comprehensive wayfinding system is in process. The system is comprised of the following components - campus maps, directional signs and building identification - these components work together as a series of signs to assist with navigation throughout the campus.

Campus Maps

Campus maps are to be located strategically at campus entry points and gathering places.

Directional Signage

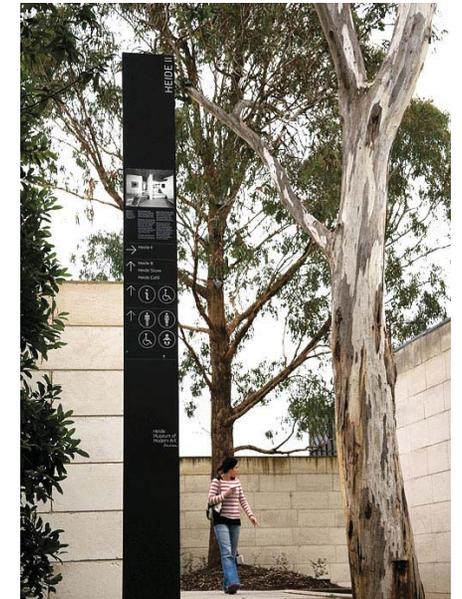
Directional signage provides assistance in finding key destinations that are off the main path of travel. They should be located at key intersections.

Night

One important aspect of Merritt College's curriculum is night classes. Key signs should be illuminated throughout the campus to provide effective signage for evening students, staff, faculty and visitors, especially at the campus entries.



The above are examples of signage that has cohesive, visually pleasing graphics and easy to read directions.



BUILDING IDENTIFICATION



Existing signage - reflects poor primary and secondary building identification.



The signage above reflects effective graphics. Illuminated signage allows for easy night identity.

GRAPHICS AND SIGNAGE

Building Identification

Building identification is another component of wayfinding and works with both campus maps and directional signage.

All buildings should be clearly identified starting with *primary building identification* (main building exterior) and *secondary building identification* (building entrances and doors).

Additionally, a set of acceptable fonts, sizes, and materials should be established and enforced. (See the PCCD Signage Standards Manual 2008)

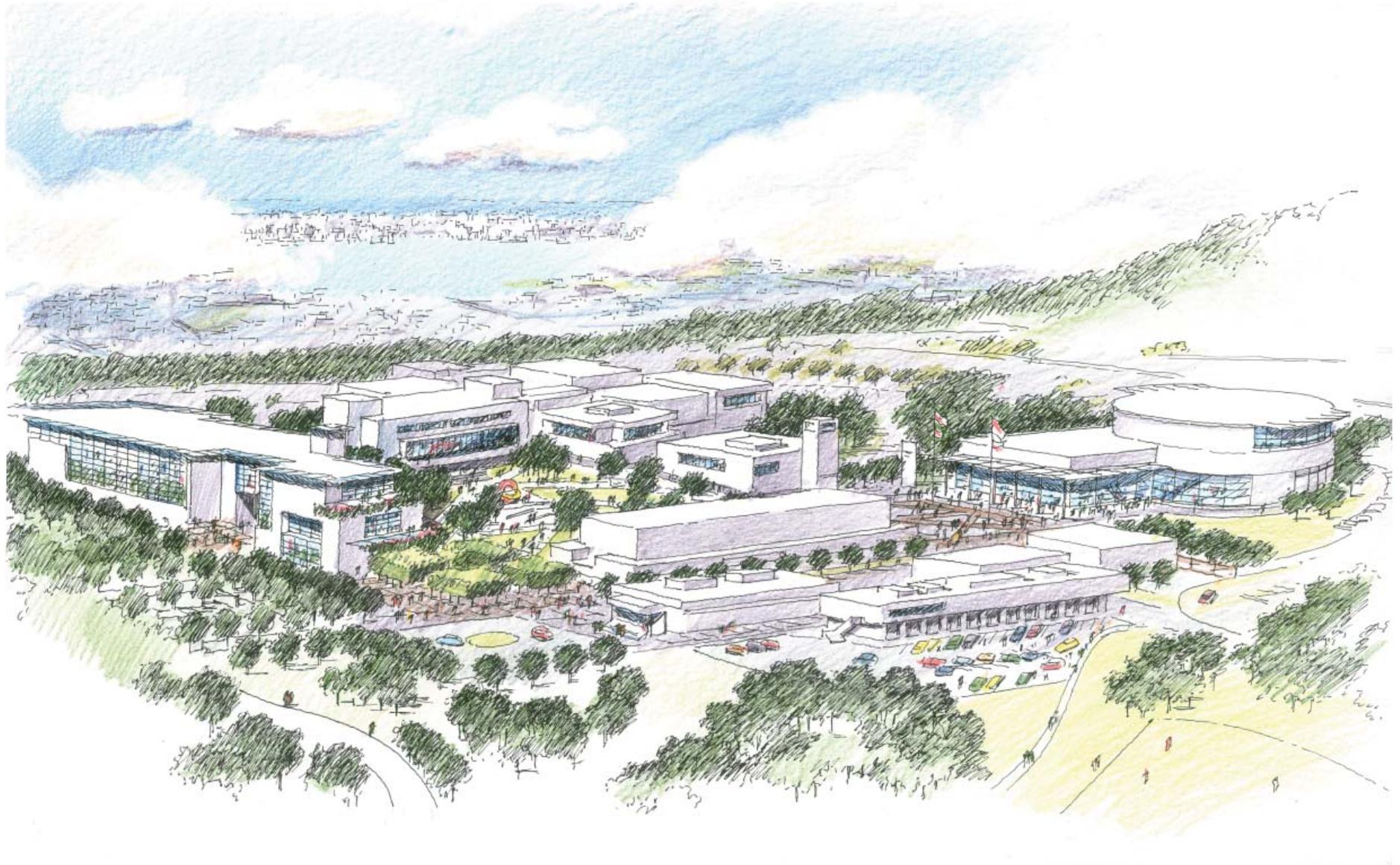


The Project Phasing that follows attempts to show possible scheduling of projects that would comprise the entire Facilities Master Plan. The project sequences are divided into Three general phases. This sequencing is used to coincide with potential applications for State funding, as a college campus is limited to one approved application per year.

The First phase has a time duration of Five years. the first phase incorporates the District's Five year plan projects in addition, ongoing maintenance projects and projects recommended by the Master Plan. This phase also attempts to provide the subsurface infrastructure components for future projects.

The Second phase has a time duration of Four years which now begins to implement the educationally driven changes to the facilities. This phase generally has fewer interim housing problems because new buildings and landscaping are constructed.

The Third phase has a time duration of Four years. The emphasis at this phase are the public - private partnership projects. In many ways this is a very speculative phase, however, if managed correctly it could offer many educational benefits and sources of revenue for the District.



2022 PROPOSED AERIAL PERSPECTIVE

Phase I 2009 - 2014:

1. Modernization of Library Building "L" 35399 sq. ft.
2. Modernization of Horticulture Building 18300 sq. ft.
3. New Allied Health & Science Building 48200 sq. ft.
4. Complete infrastructure projects to support above and future projects.



LEGEND

- Modernizations
- New Buildings / Development
- Existing Buildings



PHASE I PLAN 2009-2014

Phase II 2014 - 2018:

1. Modernization of Building "D" 49960 sq. ft.
2. Demolition of Building "A" 34856 sq. ft.
3. Modernize Building "Q" 9365 sq. ft. & "R" 15000 sq. ft.
4. New Parking approximately 100 stalls
5. New Student Housing approximately 300 rooms
6. New Conference Center
7. New Child Development Center 8661 sq. ft.



LEGEND

-  Modernizations
-  New Buildings / Development
-  Future Development
-  Existing Buildings
-  Public / Private Joint-Use
-  Demolished Buildings
-  New Sustainability and Energy Development



PHASE II PLAN 2014-2018

Phase III 2018 - 2022:

1. New front campus entry pedestrian entries, quad core redesign and park overlook
2. Modernization of Gym/ Athletic facility
3. New swimming pool
4. New 450 seat Theater Building
5. New baseball field with sustainable geothermal field below
6. Photovoltaic field for energy generation

LEGEND

-  New Buildings / Development
-  Future Development
-  Existing Buildings
-  Public / Private Joint-Use
-  New Sustainability and Energy Development

0 100 400 feet



PHASE III PLAN 2018-2022

PROJECT IMPLEMENTATION

The following costs are based on current cost projections. At the time that each of the projects are developed the price will need to be escalated to meet the prevailing costs at that time.

PHASE 1: 2009 - 2014				
Phase	Description	ASF (Building)	GSF (Site)	Total Project Cost
1A**	Modernize Library - Building L	In Design		\$ 6,000,000
1B**	New Allied Health & Science Building	56,000	80,000	\$ 65,000,000
1C**	Modernize Horticulture Building	18,300	21,960	\$ 7,137,000
1D	Infrastructure Projects: Landscaping, Sitework & Utilities for future projects		93,000	\$ 1,072,197
1E	Modernize Building Q	In Design		
TOTAL PHASE 1 PROJECT COST:				\$ 79,200,000

** Budget incorporated in CCC 5 year plan

PHASE 2: 2014 - 2018				
Phase	Description	ASF (Building)	GSF (Building or Site)	Total Project Cost
2A	Demolish Bldg A; Prep Site	34,856	37,700	\$ 3,795,296
2B**	Modernize Building D	49,960		\$ 32,000,000
2C**	New Child Development Program Building	8,661		\$ 16,120,000
2D	Modernize Building Q & R	24,365		\$ 11,600,000
2E*	New Student Housing			\$ 10,800,000
2F	Parking & Paving Upgrades		40,000	\$ 512,400
2G	Infrastructure projects: Landscape, Utilities, Hardscape			\$ 2,150,000
TOTAL PHASE 2 PROJECT COST:				\$ 77,000,000

This project is dependent on the establishment of a public/private partnership to finance the development of the project.

** Budget incorporated in CCC 5 year plan

PROJECT BUDGETING

PHASE 3: 2018 - 2022				
Phase	Description	ASF (Building)	GSF (Building or Site)	Total Project Cost
3A	Complete Infrastructure Projects (Central Plant Upgrades, Piping, Geothermal at Fields, etc.) (ALLOWANCE)		400,000	\$ 12,810,000
3B	Modernize Gym & Athletic Facilities	15,400	18,000	\$ 5,247,488
3C	New Swimming Pool			\$ 12,600,000
3D	New 450 seat Theater	24,000	31,200	\$ 12,378,000
3E	New Baseball Field & Fields upgrades	10,000	12,000	\$ 3,407,460
3F	New Campus Entry, Complete Campus Wide Landscaping and Wayfinding		154,000	\$ 2,367,288
TOTAL PHASE 3 PROJECT COST:				\$ 48,800,000

Note:

Projects in Phase 3 are dependent on other public or private partners participating in the development of the projects. These projects will also be dependent on the needs of the campus and the District at the time and the availability of funding.

PHASE 1: 2009 - 2014	\$ 79,200,000
PHASE 2: 2014 - 2018	\$ 77,000,000
PHASE 3: 2018 - 2022	\$ 48,800,000
TOTAL	\$ 205,000,000

APPENDIX

ABBREVIATIONS

AC Transit	Alameda County Transit (regional bus system)
ADA	Americans with Disabilities Act
AHU	Air Handling Unit
ASF	Assignable Square Feet
BART	Bay Area Regional Transit
FTEs	Full-time Equivalent Students
LEED	Leadership in Energy and Environmental Design
NPDES	National Pollutant Discharge Elimination System
OGSF	Overall Gross Square Feet
TOP Code	Taxonomy of Programs Code: numerical code used at the state level to collect and report information on programs and courses at different colleges throughout the state.
WSCH	Weekly Student Contact Hours

LIST OF EXHIBITS

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[View 08-09 SI Codes] [TOP Code Groups] [Room Use Groups]

Default CC: 5065 Default EPI: 2894

Room Codes	TOP #s	Description	Cost / ASF	Equip. Cost / ASF	Cost / GSF	% Efficiency
1 110-115	0 0099-4999	Classroom	\$419.00	\$13.53	\$272.00	65%
4 210-255	1 0100-0199	Agr. and Nat. Res. (on campus)	\$646.00	\$68.79	\$420.00	65%
4 210-255	1 0100-0199	Agr. and Nat. Res. (on site)	\$279.00	\$16.03	\$237.00	85%
4 210-255	2 0200-0299	Architecture and Related Technologies	\$482.00	\$84.00	\$313.00	65%
4 210-255	71 0300-0399	Environmental Science and Technologies	\$622.00	\$68.78	\$386.00	62%
4 210-255	4 0400-0499	Biological Sciences	\$646.00	\$68.79	\$401.00	62%
4 210-255	5 0500-0599	Business and Management	\$432.00	\$24.67	\$281.00	65%
4 210-255	6 0600-0699	Media and Communications	\$431.00	\$23.73	\$280.00	65%
4 210-255	7 0700-0799	Information Technology	\$675.00	\$196.73	\$439.00	65%
4 210-255	8 0800-0899	Education	\$465.00	\$23.73	\$302.00	65%
4 210-255	9 0901,0924,0934,0935	Engineering Technology	\$479.00	\$84.00	\$359.00	75%
4 210-255	10 0936,0943,0945	Industrial Technology	\$415.00	\$63.77	\$311.00	75%
4 210-255	9 0946	Engineering Technology	\$479.00	\$84.00	\$359.00	75%
4 210-255	10 0947,0948,0949	Industrial Technology	\$415.00	\$63.77	\$311.00	75%
4 210-255	9 0950	Engineering Technology	\$479.00	\$84.00	\$359.00	75%
4 210-255	10 0952,0953	Industrial Technology	\$415.00	\$63.77	\$311.00	75%
4 210-255	9 0954,0955	Engineering Technology	\$479.00	\$84.00	\$359.00	75%
4 210-255	10 0956,0957,0958	Industrial Technology	\$415.00	\$63.77	\$311.00	75%
4 210-255	9 0959,0961	Engineering Technology	\$479.00	\$84.00	\$359.00	75%
4 210-255	10 0962	Industrial Technology	\$415.00	\$63.77	\$311.00	75%
4 210-255	9 0999	Engineering Technology	\$479.00	\$84.00	\$359.00	75%
4 210-255	3 1001,1002	Fine and Applied Arts	\$431.00	\$33.13	\$280.00	65%
4 210-255	25 1004,1005	Music	\$527.00	\$53.23	\$316.00	60%
4 210-255	3 1009,1011,1012,1013,1030,1099	Fine and Applied Arts	\$431.00	\$33.13	\$280.00	65%
4 210-255	11 1100-1199	Foreign Language	\$482.00	\$49.52	\$313.00	65%
4 210-255	12 1200-1299	Health	\$497.00	\$42.66	\$298.00	60%
4 210-255	13 1300-1399	Family and Consumer Sciences	\$475.00	\$25.01	\$309.00	65%
4 210-255	14 1400-1499	Law	\$419.00	\$25.79	\$272.00	65%

4	210-255	15	1500-1599	Humanities (Letters)	\$419.00	\$24.55	\$272.00	65%
4	210-255	16	1600-1699	Library Science	\$419.00	\$25.79	\$272.00	65%
4	210-255	17	1700-1799	Mathematics-computer lab	\$436.00	\$196.73	\$283.00	65%
4	210-255	17	1700-1799	Mathematics-traditional	\$419.00	\$25.79	\$272.00	65%
4	210-255	18	1800-1899	Military Studies	\$419.00	\$25.79	\$272.00	65%
4	210-255	19	1900-1999	Physical Sciences	\$652.00	\$68.78	\$404.00	62%
4	210-255	20	2000-2099	Psychology	\$571.00	\$53.53	\$354.00	62%
4	210-255	21	2100-2199	Public and Protective Services	\$419.00	\$68.79	\$272.00	65%
4	210-255	22	2200-2299	Social Science	\$425.00	\$25.79	\$276.00	65%
4	210-255	30	3000-3099	Commercial Services	\$498.00	\$63.77	\$324.00	65%
4	210-255	49	4900-4999	Interdisciplinary Studies-computer terminals	\$436.00	\$196.73	\$283.00	65%
4	210-255	49	4900-4999	Interdisciplinary Studies-traditional	\$419.00	\$25.79	\$272.00	65%
3	230-235	25	1004	Music Practice Rooms	\$563.00	\$45.79	\$366.00	65%
3	230-235	25	1004	Recording Arts	\$680.00	\$196.73	\$442.00	65%
3	230-235	25	1005	Music Practice Rooms	\$563.00	\$45.79	\$366.00	65%
3	230-235	25	1005	Recording Arts	\$680.00	\$196.73	\$442.00	65%
3	230-235	26	1006,1007,1008	Theater Arts	\$502.00	\$32.74	\$351.00	70%
5	300-355	-1	0099-4999	Faculty Offices	\$442.00	\$21.16	\$265.00	60%
5	300-355	60	6000-9600	Administration	\$425.00	\$24.14	\$276.00	65%
6	410-420	61	6110,6120	Library - Reading and Stack Space	\$325.00	\$31.76	\$228.00	70%
7	430-440	61	6110,6120	Library- Electronic Carrels and Processing Room	\$573.00	\$196.73	\$401.00	70%
8	520-525	23	0835,0837	Physical Education	\$331.00	\$12.74	\$248.00	75%
9	530-535	62	6130	Audio Visual Arts	\$675.00	\$94.45	\$452.00	67%
10	540-545	63	6230,6320,6400	Clinic (non-health)	\$421.00	\$29.59	\$274.00	65%
11	550-555	67	6920	Demonstration (Child Care)	\$350.00	\$33.73	\$245.00	70%
12	560-580	27	0100,6500	Field Buildings	\$279.00	\$16.03	\$237.00	85%
13	610-615	26	1006,1007,1008	Theater Arts	\$502.00	\$67.94	\$351.00	70%
14	620-625	66	6140,6800,6960	Exhibition Areas	\$465.00	\$36.30	\$326.00	70%
15	630-635	68	6940	Cafeteria	\$348.00	\$28.61	\$261.00	75%
23	650-655	70	0000-9600	Staff Lounge	\$417.00	\$21.93	\$271.00	65%
16	670-675	69	6960	Recreation Areas	\$492.00	\$91.51	\$320.00	65%

SECTION TITLE

PAGE TITLE

17 680-685	70 0000-9600	Meeting Rooms	\$417.00	\$21.93	\$271.00	65%
18 690	24 0835,1006,1007,1008	Locker Rooms	\$471.00	\$9.23	\$306.00	65%
19 710-715	70 0000-9600	Data Processing/Computer Lab	\$436.00	\$196.73	\$283.00	65%
20 720-725	65 6500-6599	Maintenance & Shop Facility	\$171.00	\$62.02	\$130.00	76%
21 730-735	65 6500-6599	Warehouse	\$119.00	\$6.15	\$113.00	95%
22 800-895	64 6440	Health Care	\$494.00	\$43.10	\$321.00	65%