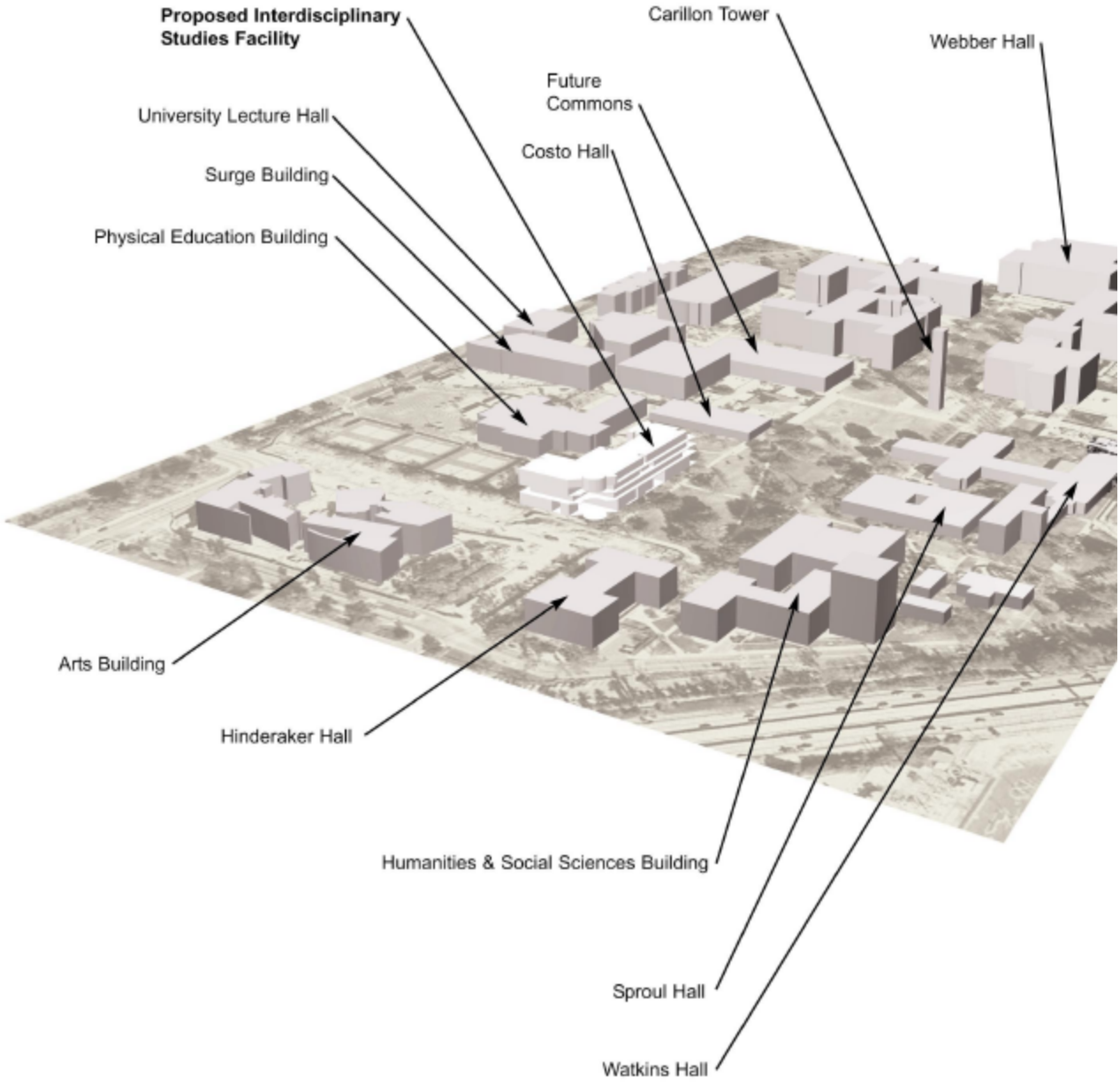
5.1 SITE & MASSING CONCEPTS

The following images illustrate the proposed CHASS Instruction & Research building's scale, mass, and impact on both the Carillon Mall and the Fine Arts Mall.

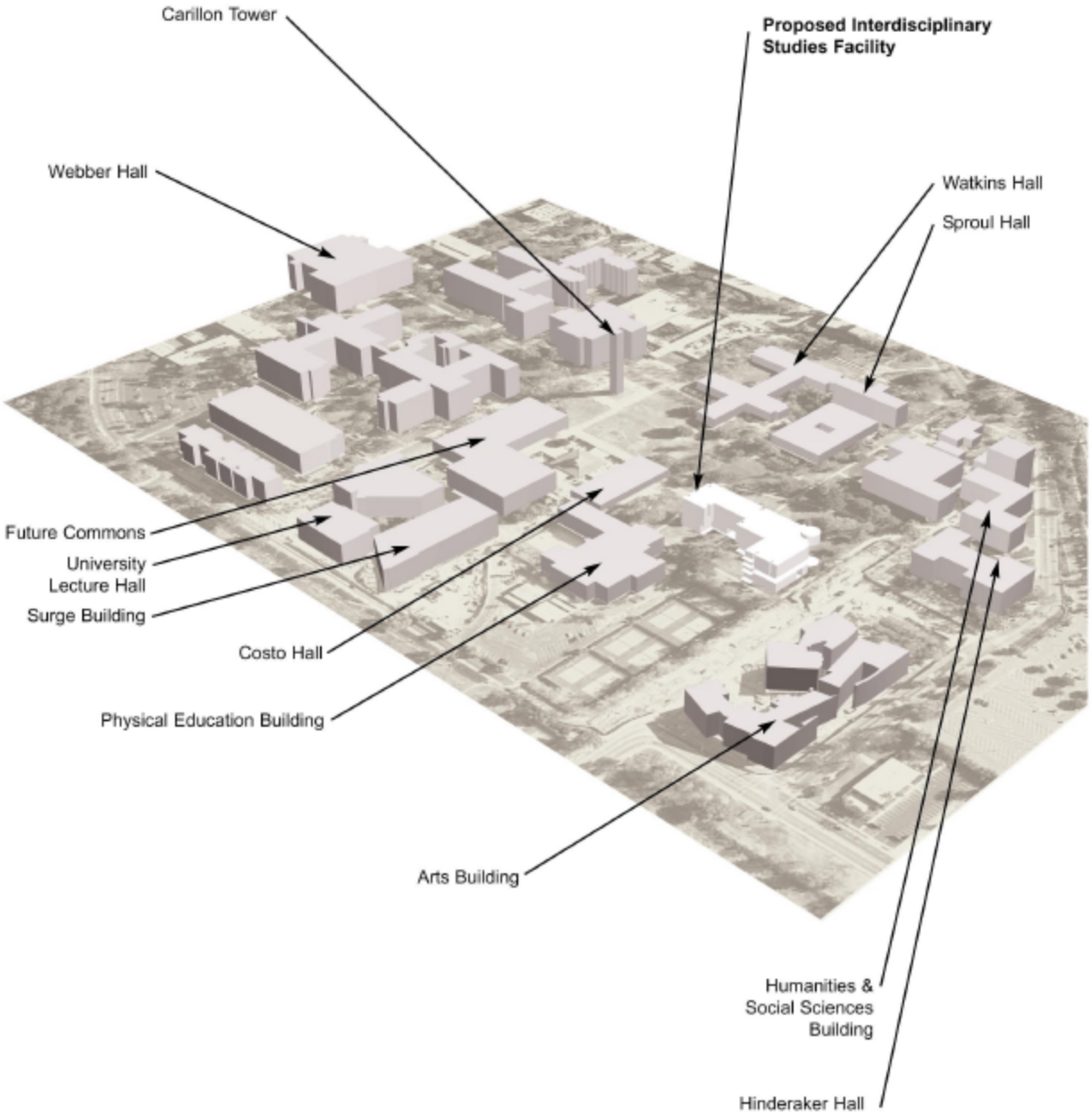
Rising four stories, and presenting a welcoming and symbolic entrance to the campus academic core, The CHASS Instruction & Research Facility will provide 69,397 ASF of instruction and research space.

It is important for the new building to be sited to achieve the Campus' Long Range Development plan goal of using a building mass to complete the north wall of the Carillon Mall. At the same time, the building's siting must preserve suitable space for future expansion, or a future building.

View Looking down the Carillon Mall:



View Looking down the Fine Arts Mall:



5.2 PROMOTING COLLEGIALITY

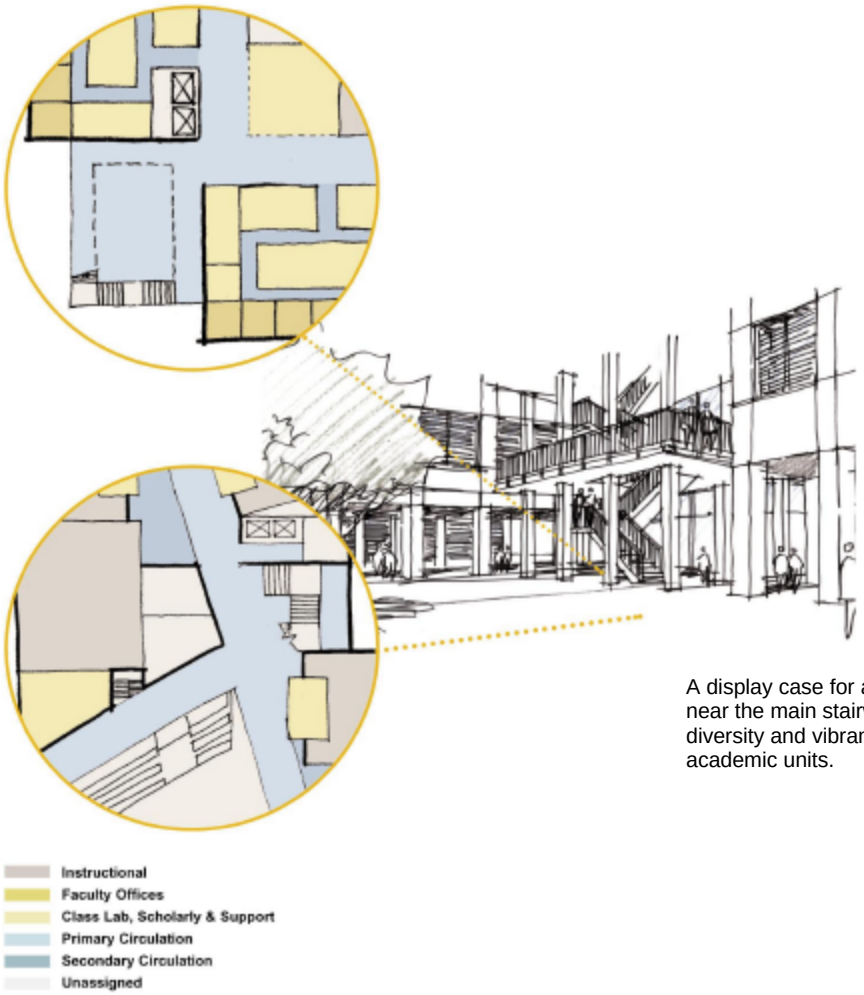
The architectural expression of the CHASS Instruction & Research Facility should convey a sense of permanence and institutional stature befitting a University of California research and teaching facility. As a prominent entity along the Carillon Mall, the CHASS Instruction & Research Facility will play an integral role in shaping the public identity of the campus. The building needs to feel welcome and inviting, not only to students, but to the community at large.

While the building must efficiently function as a flexible framework for classrooms, laboratories, and offices, the in-between spaces are the ones that will make the CHASS Instruction & Research Facility a vital and accommodating place on campus. Opportunities to develop a variety and quality of spaces, indoor and outdoor, which support student and academic life, should be pursued.

Four elements on the following pages are planned as the collegial spaces for student and faculty enrichment.

Interaction Core

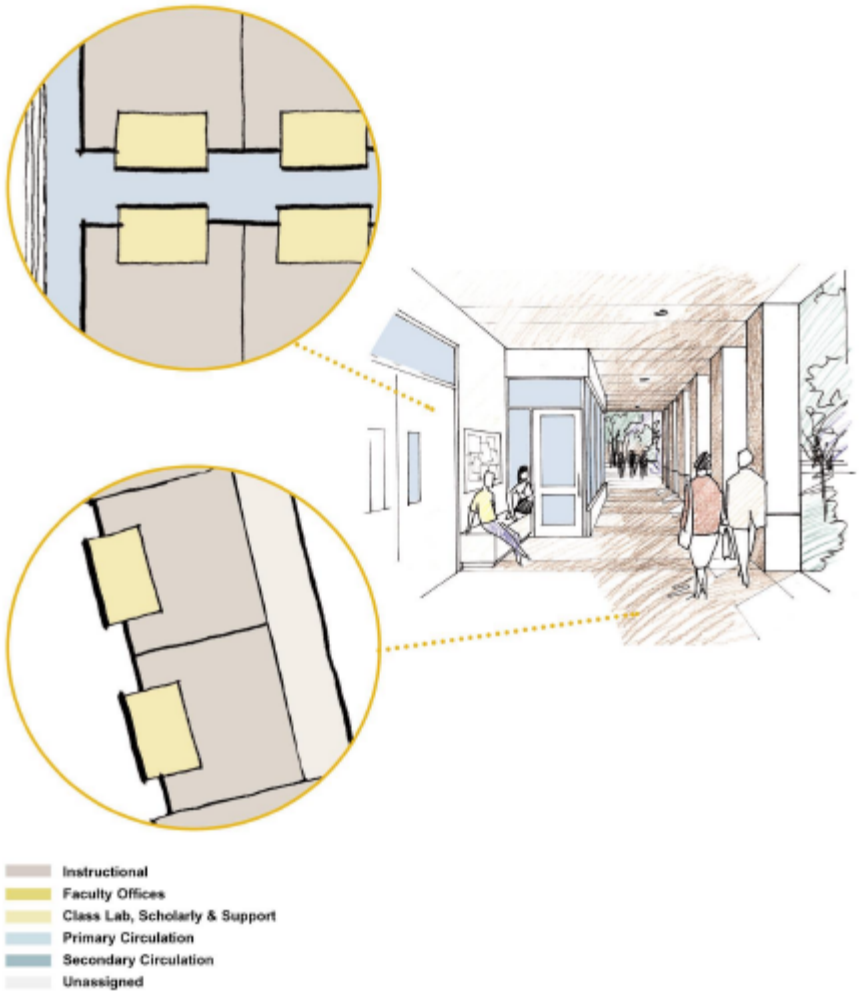
An open, inviting central stair is located at the nexus of the facilities' two wings. The core provides an ideal space for gallery display for the myriad of Interdisciplinary departments and programs located in the building. As a primary means of public circulation to the upper floors of the building, the central stair clearly identifies the building's entry, and provides easy access, while making a place for casual faculty – student interaction.



A display case for artifacts and publications, near the main stairway, announces the diversity and vibrancy of the building's academic units.

Covered Exterior Circulation

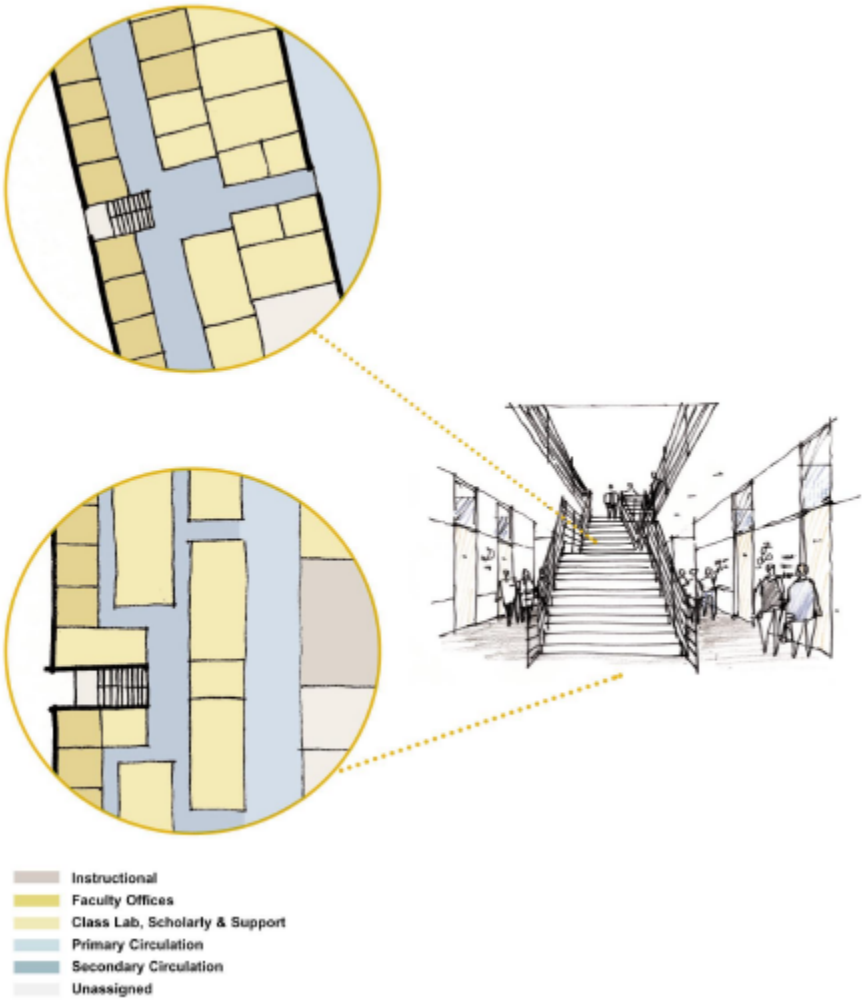
Shady covered exterior circulation linking the ground level classroom and upper floor classrooms, labs and offices, provides respite from the hot sun and connection to the outside. Not only does covered exterior circulation provide a climate sensible, and resource efficient means of accessing the classrooms, it enhances student life by providing space for waiting between classes.



5.3 RESEARCH NEIGHBORHOODS

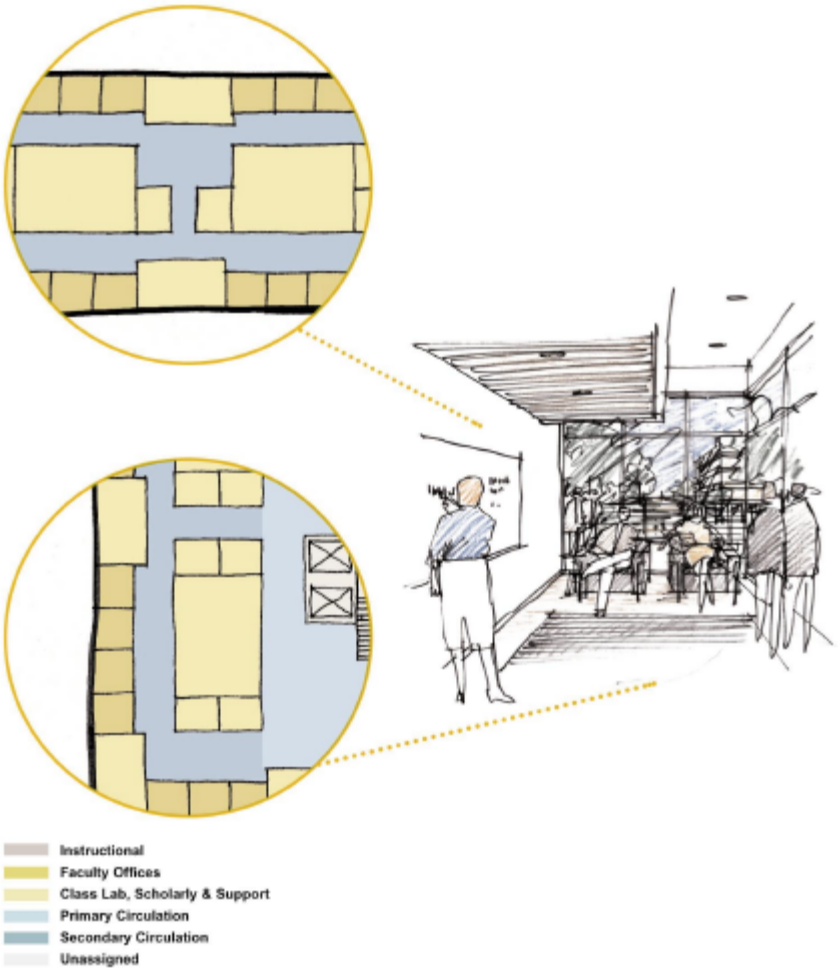
The concept of a “Home Base” where Faculty of Interdisciplinary Departments and Programs could come together to interact and reinforce their identity proved attractive. The three Academic Departments in the building will have their own Administrative Support Space and a single Interdisciplinary Program Administrative Support Space will be provided for the eight programs planned for the building.

Gallery or display space should be incorporated in the design of these support spaces. The CHASS Instruction & Research Facility’s programs have artifact and faculty publication collections that, when presented in display cases, can reinforce each unit’s sense of identity. Further, natural light, whether primary or secondary, and comfortable seating will help create a warm and inviting environment for students to develop affinity for their particular program.



Scholarly Activity Rooms

A scholarly activity room is provided for each department and program within the CHASS Instruction & Research Facility. They are situated within or adjacent to the Administrative Support Space and these rooms provide a place for faculty to gather both formally and informally. Locating these rooms central to the Administrative Support Space assures high visibility among faculty and activates the neighborhoods by fostering group scholarly activity.



5.4 BUILDING DESIGN CONCEPTS

The Building Organization and the Conceptual Design diagram, which follows, is the product of a series or workshops between EHDD and the Program Committee (for meeting notes and participants, see appendix).

Building Organization options A & B were reviewed and discussed. Varying elements in the options presented were: primary circulation, classroom sizes, and distribution of classrooms and offices.

It was generally agreed upon that Option B, with a few revisions was a better scheme for the CHASS Instruction & Research Facility. The revised version is shown as 'Option C Preferred Plan'. This option incorporates several of the successful ideas from the prior two schemes, in particular primary perimeter circulation and exterior classroom access. This plan also accounts for all required assignable and gross square footages per program.

Specific room and adjacency requirements are identified on the individual room data sheets in Section 4.4.

OPTION 'A'

Key Points:

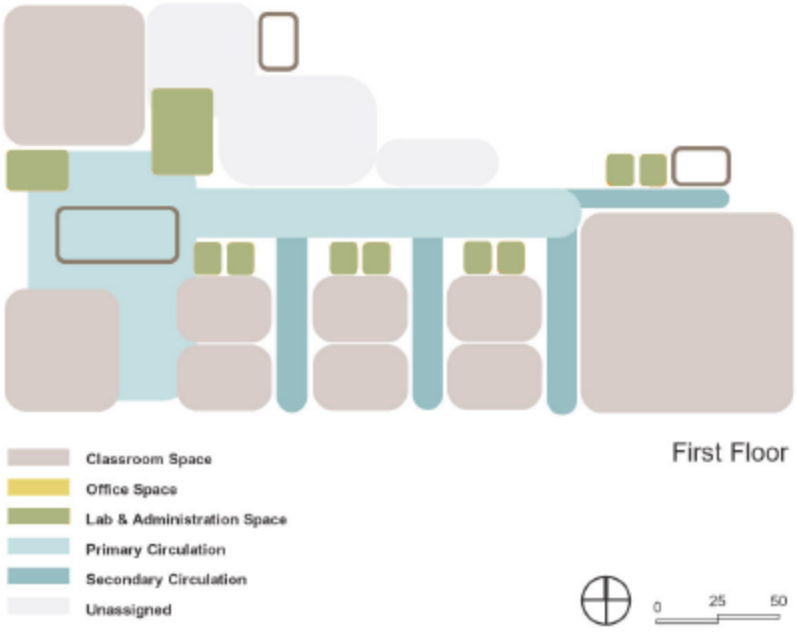
- Main Corner Entry
- Office Views on Main Mall
- Interior Classroom access
- Mixture of 30 & 300 Seat Instructional Space
- Faculty on Same Floor as Administrative Support Space
- Dispersed Class Lab, Scholarly & Support
- Primary Circulation on Interior
- Distributed General Assignment

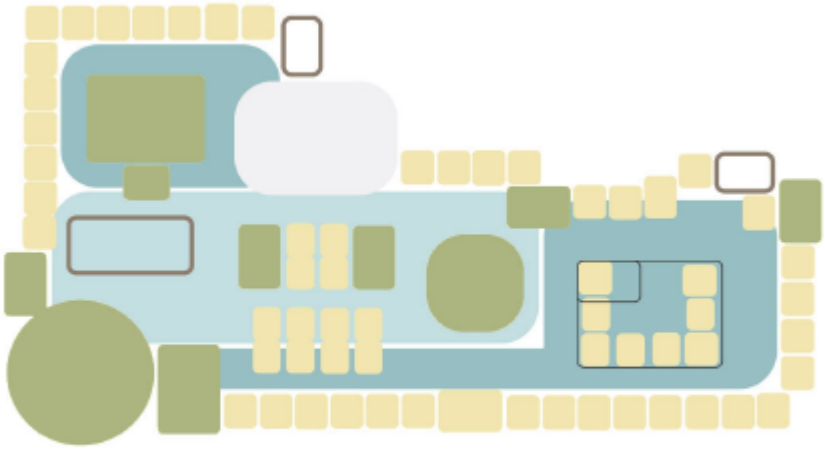
Occupants by Floor:

Fourth Floor:	Ethnic Studies, Religious Studies & Research Incubator
Third Floor:	Religious Studies & IDP Support Space
Second Floor:	Women's Studies, New Media, Film & Visual Culture & General Assignment Classrooms: 2:30
First Floor:	General Assignment Classrooms: 1:300, 1:180, 6:30, & TA hoteling space

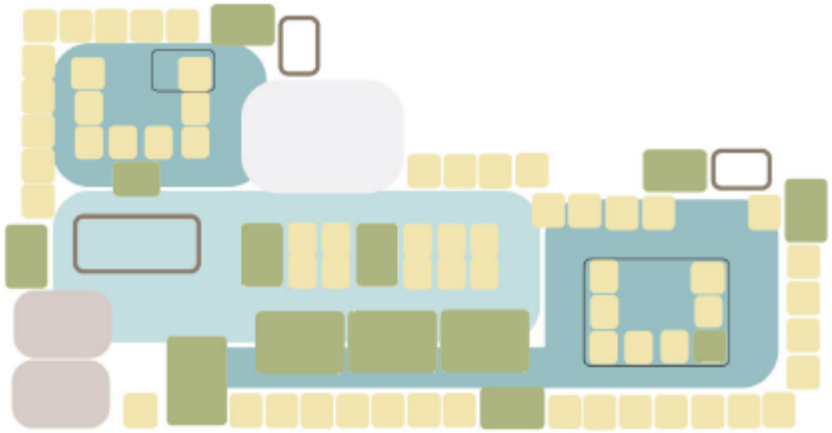
Highlights by Floor:

Fourth Floor:	Research Incubator & Round Labs
Third Floor:	30 Seat Classrooms and Symposium Space
Second Floor:	Multi Media Lab / Archive & Colloquium Room
First Floor:	General Assignment Classrooms, Graduate Student Commons & Screening / Assembly Room

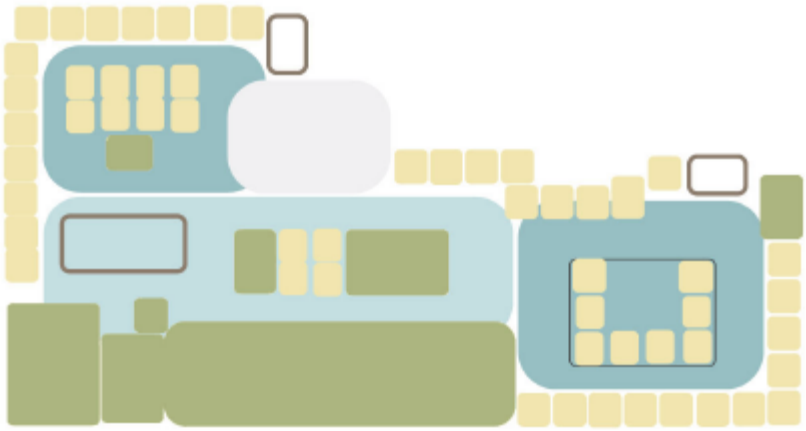




Fourth Floor



Third Floor



Second Floor

- Classroom Space
- Office Space
- Lab & Administration Space
- Primary Circulation
- Secondary Circulation
- Unassigned

OPTION 'B'

Key Points:

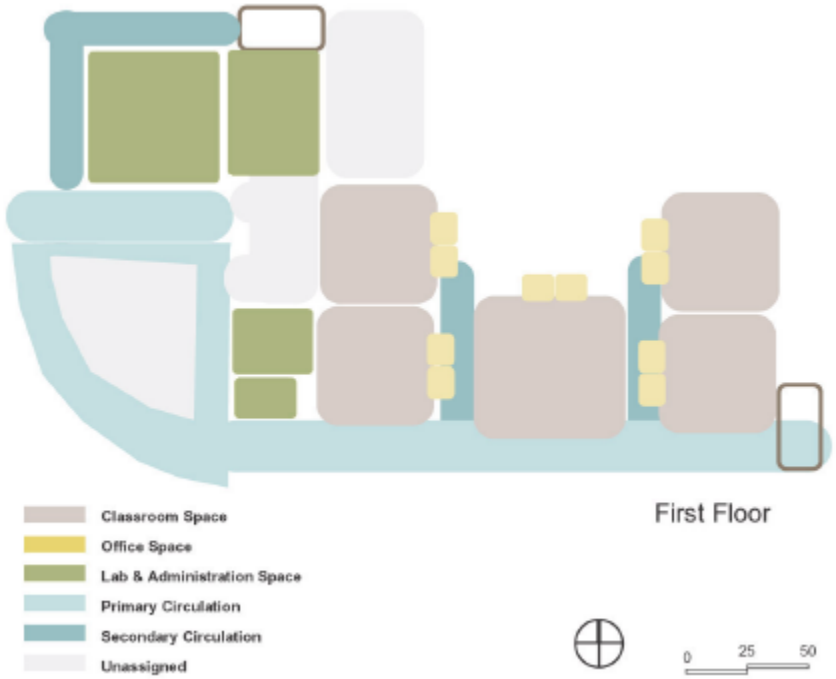
- Main Corner Entry
- Office Views on Main Mall
- Exterior Classroom access
- Mixture of 80/120 &180 Seat Instructional Space
- Faculty both on same floor as Administrative Support Space and dispersed
- Dispersed Class Lab, Scholarly & Support
- Primary Circulation on Exterior
- Consolidated General Assignment

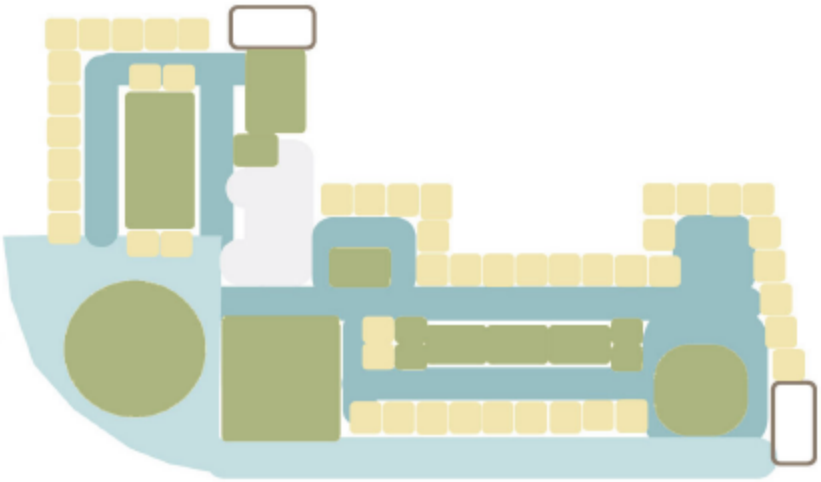
Occupants by Floor:

Fourth Floor:	Ethnic Studies, Religious Studies & Research Incubator
Third Floor:	Religious Studies & IDP Support Space
Second Floor:	Women's Studies, New Media, Film & Visual Culture & General Assignment Classrooms: 2:30
First Floor:	General Assignment Classrooms: 1:180, 4:80/120, Screening Room & TA hoteling space

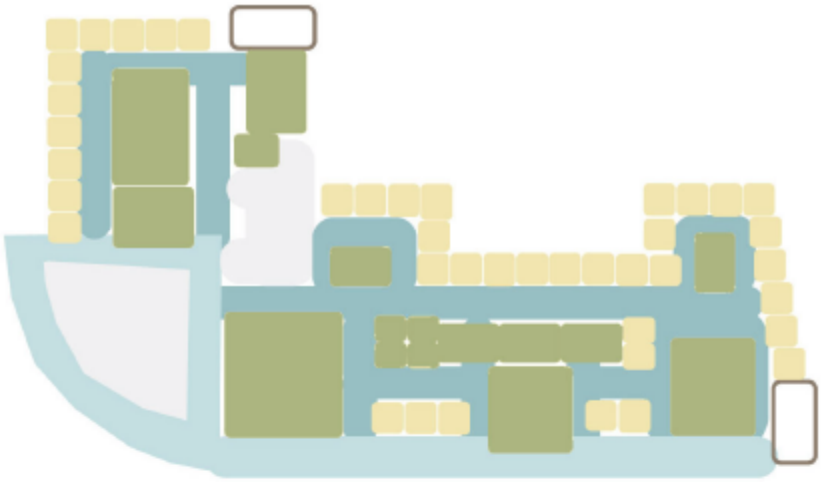
Highlights by Floor:

Fourth Floor:	Research Incubator & Round Labs
Third Floor:	30 Seat Classrooms & Colloquium Room
Second Floor:	Multi Media Lab / Archive & Symposium Space
First Floor:	General Assignment Classrooms, Graduate Student Commons & Screening / Assembly Room





Fourth Floor



Third Floor

Second Floor

Classroom Space
Office Space
Lab & Administration Space
Primary Circulation
Secondary Circulation
Unassigned

OPTION 'C PREFERRED PLAN'

Note: These concept layouts do not represent current classroom counts. Please see Chapter 4.3 for Final Program Details.

Key Points:

- Main Corner Entry
- Office Views on both Main and Carillon Malls
- Exterior Classroom access
- Mixture of 30, 45 & 300 Seat Instructional Space
- Faculty both on same floor as Administrative Support Space and dispersed
- Dispersed Class Lab, Scholarly & Support
- Primary Circulation on Exterior
- Distributed General Assignment

First Floor

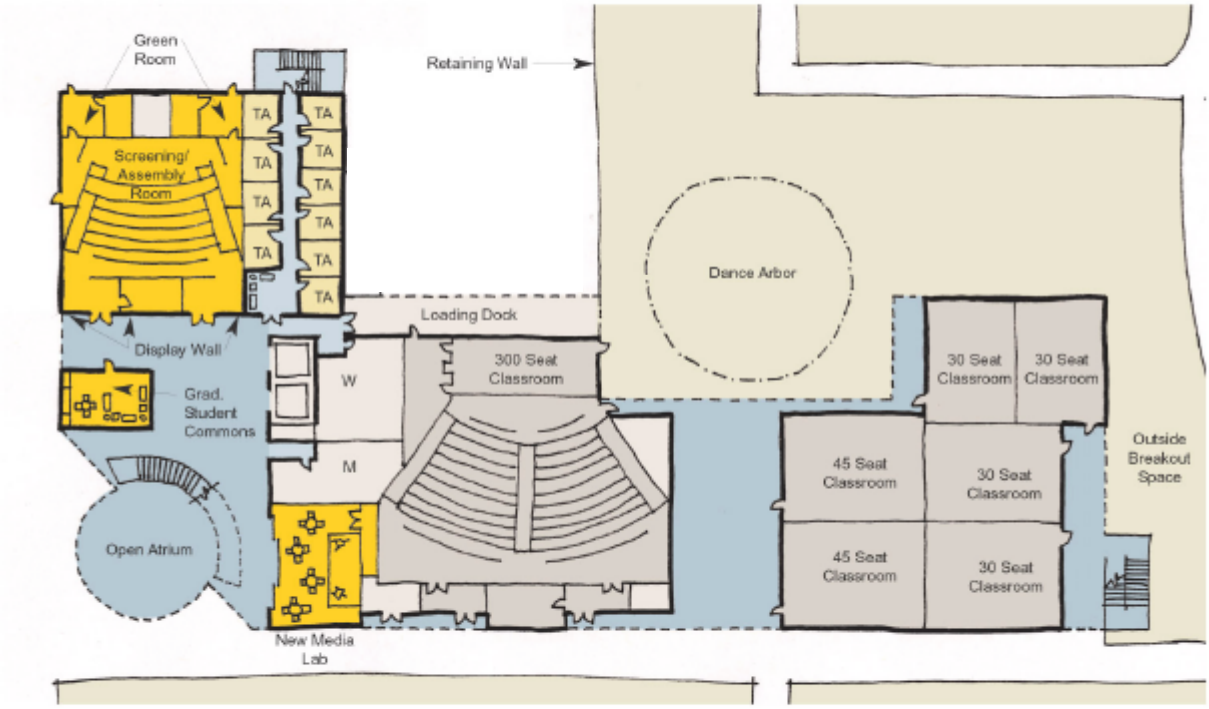
Note: These concept layouts do not represent current classroom counts. Please see Chapter 4.3 for Final Program Details.

Occupants:

- Teaching Assistant Office: 30
- 30 Seat Classroom: 4
- 45 Seat Classroom: 2
- 300 Seat Classroom: 1
- Screening / Assembly Room 100
- Graduate Student Commons
- New Media Lab 30

Highlights:

General Assignment Classrooms, Screening / Assembly Room, & New Media Lab



First Floor Plan

General Assignment Classroom Space
Faculty Office
TA / Graduate Student Office
Administration Space
Instructional Laboratory & Research / Scholarly Activity
Primary Circulation
Secondary Circulation
NonAssignable Space

0 25 50

Second Floor

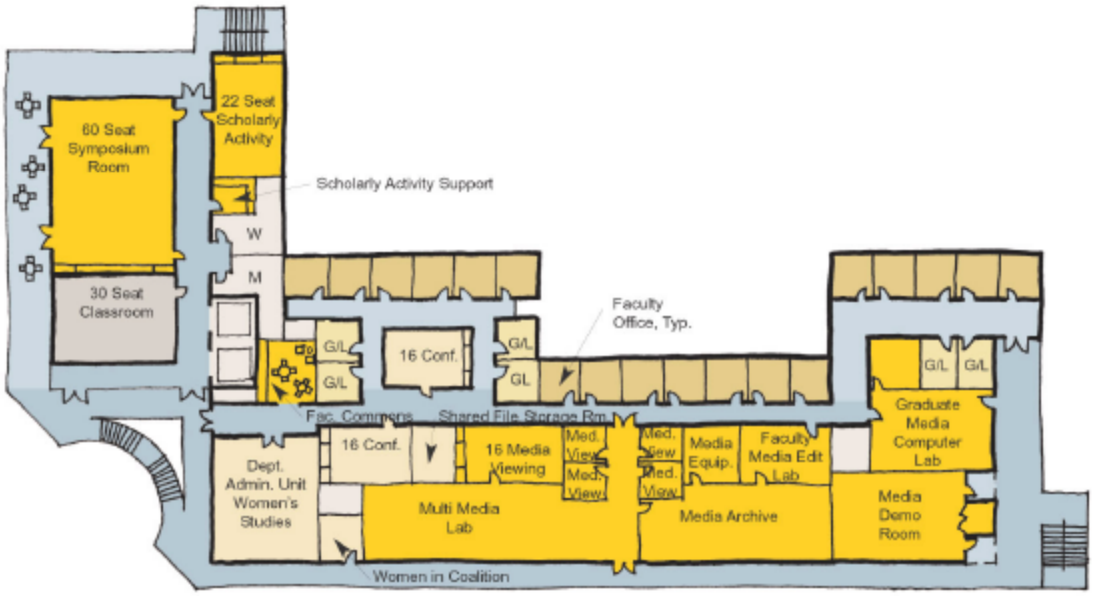
Note: These concept layouts do not represent current classroom counts. Please see Chapter 4.3 for Final Program Details.

Occupants:

- Graduate Students / Lecturers: 18
- 30 Seat Classroom: 1
- **Faculty Total: 18**
- Women's Studies: 10
- New Media: 8

Highlights:

30 Seat Classroom, 60 Seat Symposium, Multi Media Lab, Media Demo Room, & Shared File Storage



Second Floor Plan

Third Floor

Note: These concept layouts do not represent current classroom counts. Please see Chapter 4.3 for Final Program Details.

Occupants:

- Graduate Students / Lecturers: 42
- **Faculty Total: 44**
- Religious Studies: 10
- Asian Pacific/ Southeast Asian: 10
- Comparative Ancient Civilizations (CPAC): 7
- Film & Visual Culture: 10
- American Indian Studies: 7

Highlights:

Archive Room, 30 Seat Symposium, & Interdisciplinary Programs (IDP) Administrative Unit

Third Floor Plan

Fourth Floor

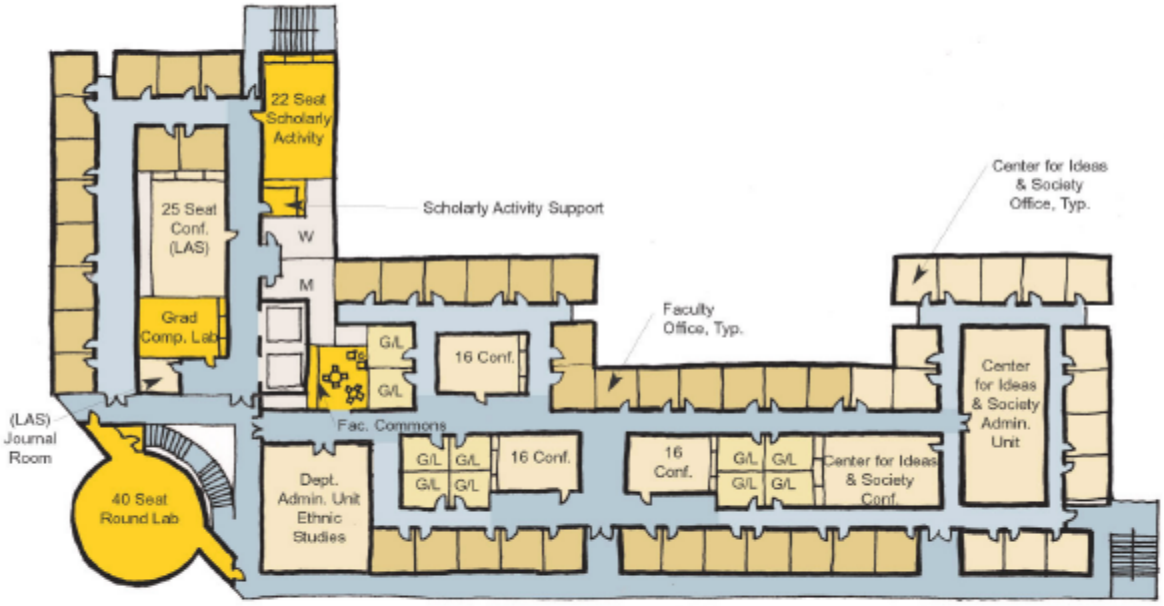
Note: These concept layouts do not represent current classroom counts. Please see Chapter 4.3 for Final Program Details.

Occupants:

- Graduate Students / Lecturers: 30
- Center For Ideas and Society 12
- **Faculty Total: 39**
- Ethnic Studies: 13
- Latin American Studies: 20
- Chicano Art & Social Action (CASA): 6

Highlights:

Center For Ideas and Society & Round Lab



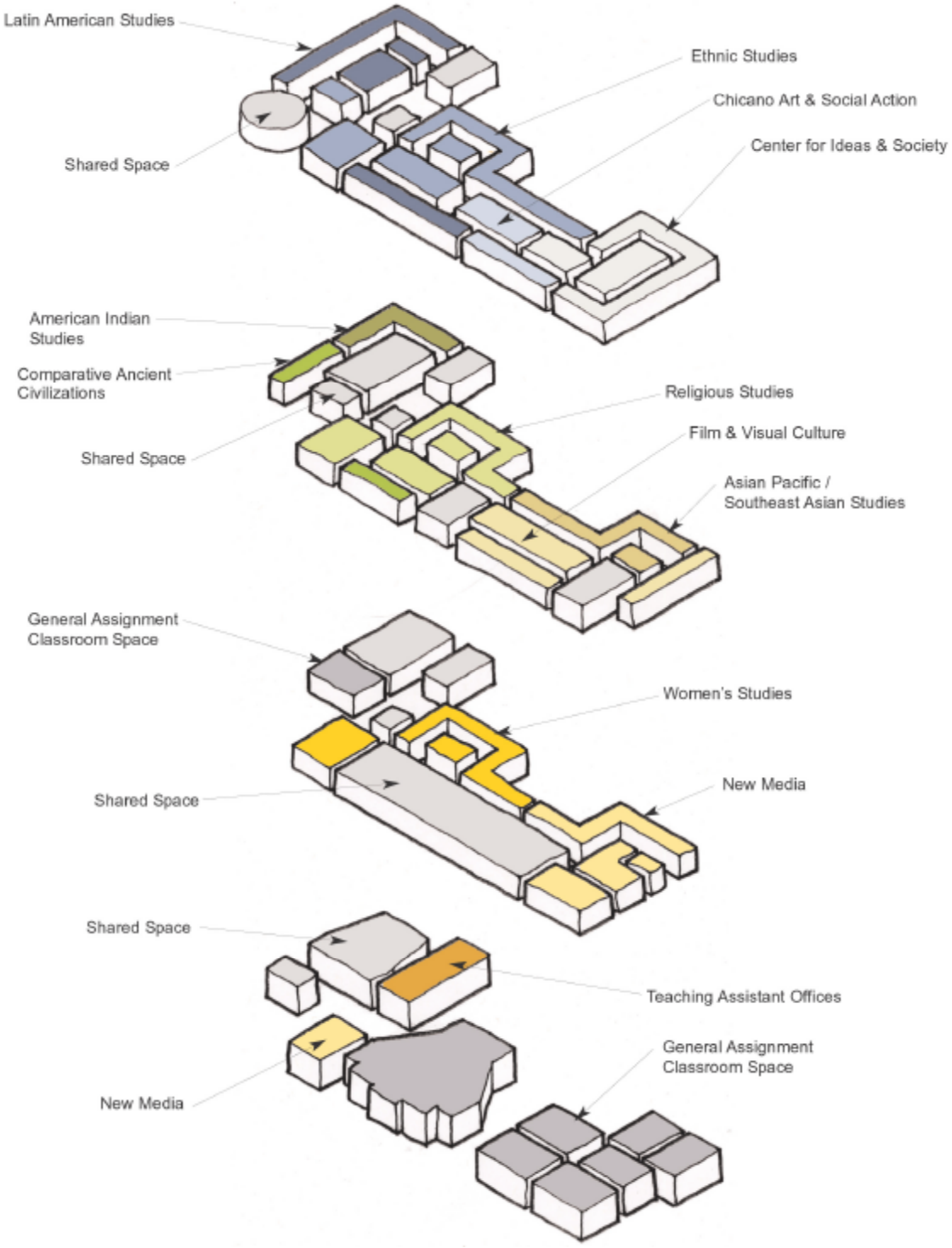
Fourth Floor Plan

- General Assignment Classroom Space
- Faculty Office
- TA / Graduate Student Office
- Administration Space
- Instructional Laboratory & Research / Scholarly Activity
- Primary Circulation
- Secondary Circulation
- NonAssignable Space

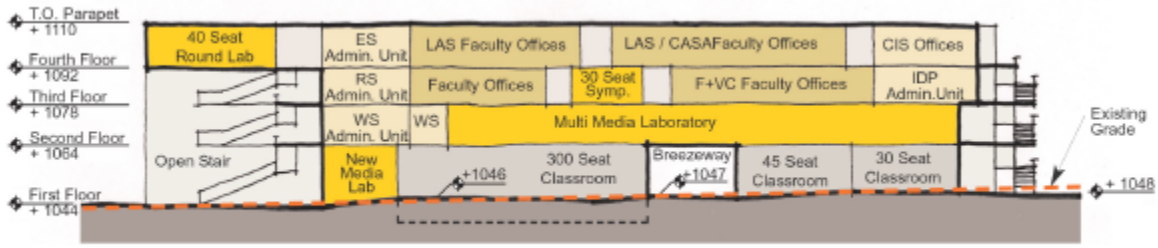
0 25 50

Axonometric Stacking Diagrams

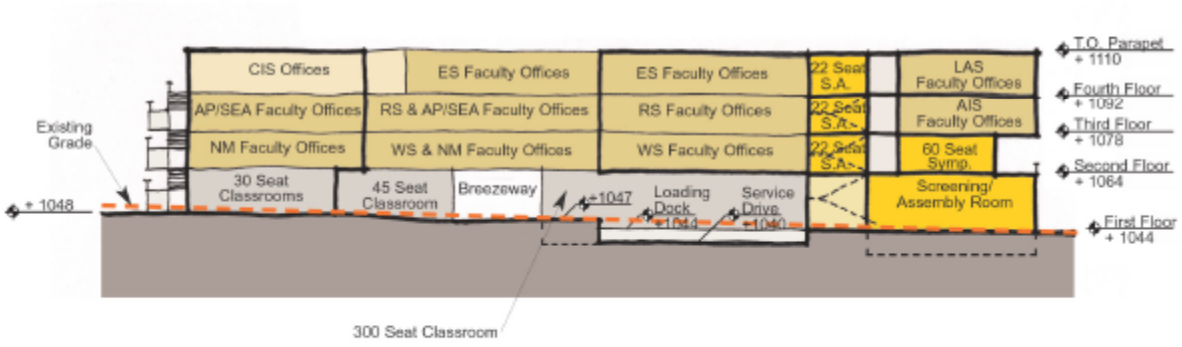
Note: These concept layouts do not represent current classroom counts. Please see Chapter 4.3 for Final Program Details.



Concept Stacking View From South



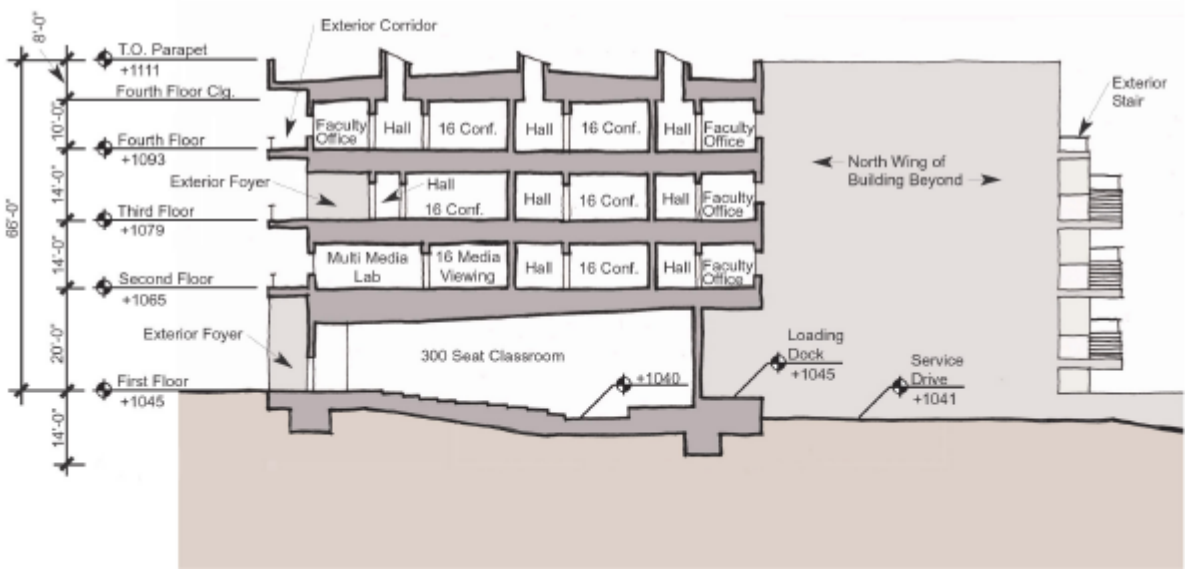
Concept Stacking View From North



General Assignment Classroom Space
Faculty Office
TA / Graduate Student Office
Administration Space
Instructional Laboratory & Research / Scholarly Activity
Primary Circulation
Secondary Circulation
NonAssignable Space

0 25 50

Building Section Looking West



6.1 CODES, REGULATIONS, STANDARDS & GUIDELINES

Compliance

Codes, Regulations, Standards & Guidlines: Comply with adopted applicable sections of national, state, and local codes, laws, ordinances, rules and regulations enforced by the authorities having jurisdictions. Conformance with Campus Design Standards will be applicable.

Codes & Regulations

All work will comply with the latest adopted editions of all codes, including, but not limited to, the following codes:

State of California Code of Regulations (CCR), current edition – Title 24.

California Building Code, (CBC) current edition.
(Title 24, Part 2, references Uniform Building Code)

California Electrical Code, (CEC) current edition.
(Title 24, Part 3, references National Electrical Code)

California Mechanical Code, (CMC) current edition.
(Title 24, Part 4, references Uniform Mechanical Code)

California Plumbing Code, (CPC) current edition
(Title 24, Part 5, references Uniform Plumbing Code)

California Energy Code, current edition
(Title 24, Part 6)

California Elevator Safety Code, current edition
(Title 24, Part 7)

California Fire Code, (CFC) current edition.
(Title 24, Part 9, references Uniform Fire Code)

Occupational Safety and Health Administration (OSHA).

Americans with Disability Act (ADA).

South Coast Air Quality Management District (SCAQMD).

Standards & Guidelines

National Fire Protection Association (NFPA).
(Including, but not limited to NFPA 13, NFPA 70, & NFPA 101)

American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE).

American Standards of Testing Materials (ASTM)

Underwriters' Laboratories, Inc. (UL).

UCR Campus Standards and Design Criteria.

6.2 OCCUPANCY CLASSIFICATION & CONSTRUCTION TYPE

With large and small meeting and assembly rooms, classrooms and faculty offices, the Interdisciplinary Studies Building will be a mixed use or occupancy building.

CBC 302.1
When a building is used for more than one occupancy purpose, each part of the building comprising a distinct "occupancy", as described in Section 301, shall be separated from any other occupancy as specified in Section 302.4.

Exceptions:
2. The following occupancies need not be separated from the uses to which they are accessory:
2.1 Assembly rooms having a floor area of not over 750 square feet.

CBC 303.1.1 – Group A Division 2
A building or portion of a building having an assembly room with an occupant load of less that 1,000 and a legitimate stage.

- Screening / Assembly Room
- Classroom – 300 Seat

CBC 3031.1 – Group A Division 3
A building or portion of a building having an assembly room with an occupant load of less than 300 without a legitimate stage, including buildings used for educational purposes and not classed as Group B or E Occupancies.

CBC 304.1 – Group B
Group B Occupancies shall include buildings, structures, or portions thereof, for office, professional or service type transactions, which are not classified as Group H Occupancies.

Business occupancies shall include Educational occupancies above the 12^{th} grade.

CBC Table 3-B – Required Separation in Buildings of Mixed Occupancy

- A-2 / B requires 1 hour occupancy separation
- A-3 / B does not require occupancy separation

CBC 504.3 – Allowable Floor Area of Mixed Occupancies
When a building houses more than one occupancy, the area of the building shall be such that the sum of the ratios of the actual area for each separate occupancy divided by the total allowable area for each separate occupancy shall not exceed one.

CBC 505 – Allowable Area Increases
CBC 504.2 – Areas of Buildings over One Story
The total combined floor area for multi-story buildings may be twice that permitted by Table 5-B for one-story buildings, and the floor area of any single story shall not exceed that permitted for a one-story building.

- Allowable area may be doubled

CBC 505.1.2 – Separation on three sides
Where public ways or yards more than 20 feet in width extend along and adjoin three sides of the building, floor areas may be increased at a rate of 2 ½ percent for each foot by which the minimum width exceeds 20 feet, but the increase shall not exceed 100%.

- Minimum width of Fine Arts Mall = 100'
- (100-20) x 2 ½ % = 200%

- 100% area increase allowed

CBC 505.3 – Automatic Sprinkler System
The areas specified in Table 5-B and section 504.2 may be doubled in buildings of more than one story if the building is provided with an approved automatic sprinkler system throughout. The area increases permitted in the section may be compounded with that specified in Section 505.1.2.

- 100% area increase allowed

CBC Table 5-B – Basic Allowable Building Heights and Basic Allowable Floor Area for Buildings One Story in Height

	Type I F.R.	Type II F.R.	Type II F.R. w/300% increase
A-2	Unlimited Unlimited	4 story 29,900 sf / story	4 story 89,700 sf / story
B	Unlimited Unlimited	12 story 39,900 sf / story	12 story 119,700 sf / story

Total Building Area = 103,000 sf
Number of Stories = 4
Maximum Area / Floor = 25,000 sf

Check Mixed Occupancy Area for Type II F.R.
First Story = 7,100 sf A-2 & 95,900 sf B

7,100 / 89,700 + 95,900 / 119,700 = .88 < 1 **OK for Type II F.R.**

6.3 LANDSCAPE CONCEPTS DESCRIPTION

General Site Goals:

- Recall UC Riverside's citrus heritage as well as the agricultural teaching and research programs.
- Reinforce and strengthen relationship to the Carillon Mall. Site the building to enhance and define the western end of the Carillon Mall and the eastern side of the Arts Mall.
- The site design should recall and reinforce the three departments: women's, religious and ethnic studies through a "Chain of Courtyards".
- Hardscape features shall be designed and selected to enhance gatherings and to deter skateboarders.

Chain of Courtyards

Preliminary ideas for the "Chain of Courtyards" are discussed below and should be reinforced through an information-gathering outreach program during early design phases. Courtyards should be designed to offer a range of public to private experiences accommodating both small groups and individual study and to possibly function as teaching tools. Details in both planting and hardscape will unify the courtyards and complement the architectural details.

1. The *Entry Court* should be designed to enhance the experience of arrival and departure and support the building's interface with both the Fine Arts Mall and the Carillon Mall. Enhanced paving and a distinct shrub, vine and groundcover palette will distinguish the entry from other buildings within the precinct and create an accessible, visibly open and welcoming outdoor court. Along the Fine Arts Mall, where there are voids in the existing tree pattern, or where infill is necessary, complement the existing tree planting with Chinese Flame Tree (*Koelreuteria bipinnata*) at 30'-0" on center tree spacing.

2. *Memorial Walk.* Along the south side of the proposed building the plant palette and paving enhancements should recognize the unique and important contributions women have made to the Riverside community and the University. For example, the plant palette could recall Eliza Tibbet's planting of the parent navel orange tree, which played an important role in the growth of the citrus industry in Riverside. The design shall comply with the Master Landscape Plan for the Carillon Mall. The Master Landscape Plan proposes White Alder (*Alnus rhombifolia*) at 20'-0" on center along the Carillon Mall.

3. The *Native American Timeline* serves as a link between the Carillon Mall and the proposed Dance Arbor. The timeline highlights and interprets the important influence the Native American communities have had in the development of Riverside. The timeline creates a graphic narrative for visitors and students using the space on a daily basis. The narrative could appear in paving details, sculptural components or as part of a public artwork program.

4. *Dance Arbor*. An outdoor gathering space is proposed at the north side of the building and could be designed to celebrate the region's Native American heritage. The gathering node should afford opportunities for outdoor events, musical performances, dance and art shows. A circular grove of Council Trees could offer shade at the courtyard. Throughout history, many large trees have served as gathering places for holding council and negotiating treaties. Traditional council trees include the Elm, Oak, and Pine. The dance arbor could be slightly depressed with an amphitheater-like sloped grass area at the perimeter for casual seating. The gathering node should be screened from the service yard.

5. *Meditation Court.* Along the east side of the building, the more secluded Meditation Court is an intimate, contemplative courtyard. A sacred tree anchors the courtyard. Vegetative screening at the perimeter affords privacy from the adjacent walkways. A lush plant palette offers an element of restfulness.

6. The *Service Yard* is located at the north side of the building at the lower elevation. A brick veneer retaining wall and vegetative screening separates the service yard from the Dance Arbor.

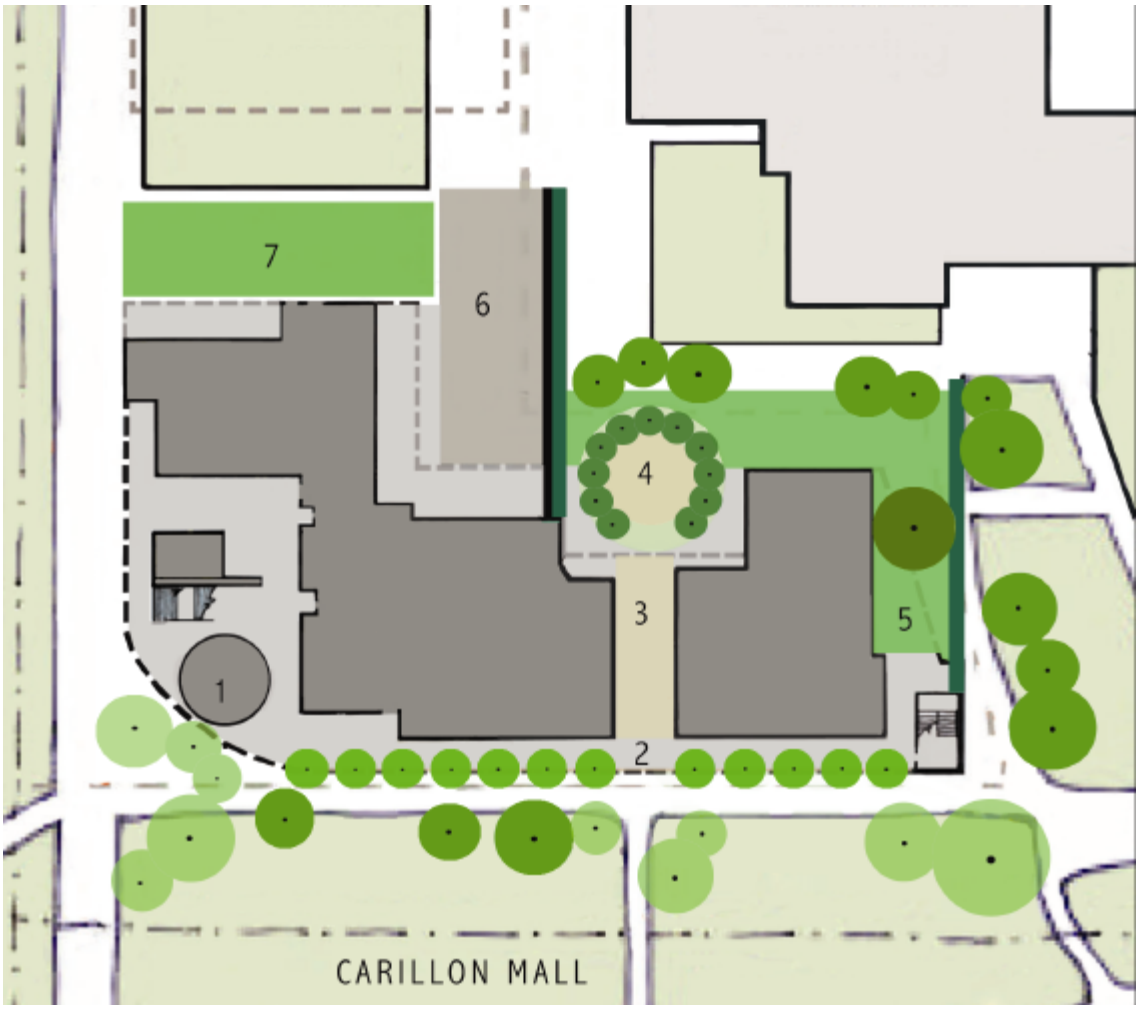
7. *Transition Area*. At the northwest corner of the site, a change in grade of approximately 12'. Existing row of mature Pine Trees act as a transition to the lower elevation.

Other Site-Wide Concepts

Sustainable Measures. Develop a sustainable materials palette. Integrate permeable paving wherever possible as well as a low water usage plant palette. Minimize the amount of high maintenance turf.

Plant Palette. Proposed plantings should be drought tolerant, low maintenance and offer seasonal interest. The tree, shrub and groundcover palette should be in compliance with the Campus Landscape Master Plan. Plantings should be selected based on their ability to withstand wind, create shade and regulate temperature.

Pedestrian Linkages/Paving. Coordination of the paving patterns used throughout the College of Humanities, Arts and Social Sciences will unify the buildings within the precinct. Consistent with the LRDP, enhanced paving at the entries and proposed gathering nodes will distinguish the



Planting Screen

Proposed Planting at Meditation Court

Proposed Council Tree

Proposed Tree Clusters

Tree Row at the Memorial Walk

Existing Trees

Sacred Tree at Meditation Court

Chain of Courtyards

1. Entry Court
2. Memorial Walk
3. Native American Timeline
4. Dance Arbor
5. Meditation Court
6. Service Yard
7. Transition Areas

new building from others within the precinct and from other campus buildings. Pedestrian linkages across the Fine Arts Mall should be improved to connect with new building. At major pedestrian connections, establish continuity with the larger campus by reinforcing the use of the UC Riverside integrally colored (UCR tan) concrete with light salt finish.

Site Furnishings. Site furnishings should complement furnishings used throughout the campus and should be selected based on durability, ease of maintenance, comfort and ADA accessibility. Movable tables and chairs are recommended at the gathering nodes. Provide seating and gathering space outside of the general assignment classrooms and the screening room.

Lighting. Reinforce the Campus–wide family of lighting types along major pedestrian connections. Site lighting will consist of pole lights, bollards, step lights, and landscape accent lights to afford clear circulation and use in the evening and at night.

Irrigation. Irrigation should be tied into existing points of connection and a new automatic controller should be provided as part of the project. The Solar Wind automatic controller is the University standard. To accurately assess the soil profile, moisture sensors should be included as a part of the required irrigation equipment. A deep water application for proposed trees is recommended.

6.4 STRUCTURAL CONCEPTS DESCRIPTION

Introduction

The intent of this basis of design is to highlight the structural systems proposed for various elements of the building and establish a preliminary structural design criteria for this project.

Facility Information

The Interdisciplinary Studies Facility will be four-stories, approximately 69,000 asf classroom and faculty office building. The facility is to include office spaces, lab spaces, administrative spaces, and an auditorium.

Codes

The governing building code will be the California Building Code, latest edition (1998), which is effectively the 1997 Uniform Building Code. Other referenced design codes are anticipated to include the AISC Manual of Steel Construction (LRFD), Third Edition, ACI Building Code, Commentary, ACI 318-95, and AWS Structural Welding Code, ANSI/AWS D1.1-9.

Seismic Design

Changes contained in the 1997 Uniform Building Code will increase the seismic loads for this project significantly from those required by the 1994 Building Code. To the extent that programmatic requirements limit structural redundancy, the building code imposes a penalty in the form of higher forces which can be as much as 50% higher. In addition, it is believed that the site is approximately 10 km from active faults such as the San Jacinto. We anticipate that the site will be classified as within a Type A Fault Zone, and seismic forces will be increased by up to an additional 20%. The UC Riverside site is not within a zone classified with a high susceptibility to liquefaction, sliding, tsunami, fault rupture, excessive ground motion-induced settlement or instability.

Seismic design criteria will be based on the California Building Code and the University of California Seismic Policy, which requires that the building attain a seismic rating of "good". It is not anticipated that the special seismic performance goals are required for this project, and the basic seismic design criteria contained in the 1997 Uniform Building Code will guide the design of the seismic system. For this reason, systems with potentially higher seismic performance characteristics, such as an seismic isolation and energy dissipation, would probably require an increase in the project construction budget because of their higher initial construction cost.

Seismic Design Factors

Seismic Zone Factor	Z = 0.4
Importance Factor	I = 1.0
Soil Factor	Sc (pending geotechnical report)
Structural System Factor	R = 5.5 to 8.5 (pending system selection)
Near Fault Amplification	Type A

Wind Design

Basic Wind Speed	70 miles per hour
Exposure	Exposure B
Importance Factor	I = 1.0

Design Loads: Gravity Loads

Live Loads	
General Office	50 psf plus 20 psf partition load (reducible)
Classrooms	40 psf reducible
Exit Corridors	100 psf reducible
Exit Stairs	100 psf reducible
Plaza (not accessible to vehicles)	100 psf non-reducible
Roof (general)	20 psf
Media Archive (compact storage shelving)	Per type and manufacturer
Mechanical Equipment	Per type of equipment and location Support

Vibration

A tentative vibration criteria for the purpose of conceptualizing this building is assumed to be 8000 μ-in/sec based on a intermediate walking pace. This should be adequate for the proposed use of the facility since there is no expected use of vibration-sensitive equipment.

Structural Systems Description

A. Option 1 - Structural Steel

The foundation system would utilize shallow cast-in-place concrete spread footings. Drilled concrete piers or piles will be used as required by site restrictions and adjacency to existing structures.

The floor system would consist of metal deck with light-weight concrete fill supported by structural steel wide flange WF beams and girders. The steel beams and girders will be supported by steel WF columns. Lateral resistance against earthquakes will be provided by a dual system of steel braced frames and ductile steel moment resisting frames (SMRF). The braced frames would typically be located at the cores of the building while the SMRF's would be located towards the "edges" of the structure.

The steel braced frames will consist of W14x (nominal) columns, W18x to W21x beams, and 10 to 12 in square tube steel braces. 16 to 18 in square built-up box columns will be used to support frames in two orthogonal directions.

Steel moment frames will consist of steel WF beams and columns.

The slab on grade is expected to be 5 in. thick throughout (assuming no special upward hydrostatic pressure), reinforced with rebar for temperature and shrinkage control.

B. Option 2 - Cast-In-Place Reinforced Concrete

The foundation system would utilize shallow cast-in-place concrete spread footings. Drilled concrete piers or piles will be used as required by site restrictions and adjacency to existing structures.

The floor system would consist of a reinforced concrete flat slab with drop panels and columns capitals. The flat slab will be supported by reinforced concrete columns continuous to the foundations. Lateral resistance against earthquakes will be provided by a dual system of concrete shear walls and ductile steel moment resisting frames (SMRF). The shear walls would typically be located at the cores of the building while the SMRF's would be located towards the "edges" of the structure.

The slab on grade is expected to be 5 in. thick throughout (assuming no special upward hydrostatic pressure), reinforced with rebar for temperature and shrinkage control.

Geotechnical - Foundation

For the purpose of conceptual planning, generally available information from adjacent projects has been used. The soil in this area is assumed to be capable of supporting shallow spread foundations based on an assumed allowable soil pressure of approximately 4,000 to 5,000 psf (pending geotechnical confirmation). At locations adjacent to existing structures, deeper drilled caissons or pile foundations will be used to avoid surcharging the existing structures and to provide enough area for resistance of applied loads. The extent of existing fill, soils and backfill on the site and their impact of any required overexcavation is not known, but deep excavations are not anticipated at this time, so shoring of adjacent structures is assumed to be minimal.

Structural Materials

Structural Steel ASTM A36 for all structural shapes except as noted otherwise (dual-certified steel acceptable except for seismic beams, columns, and braces)

ASTM A992, Grade 50 for seismic beams
ASTM A913, Grade 65 for seismic axially loaded members and non-seismic columns

ASTM A500, Grade B for all structural tubes

A490 Anchor bolts
A325 High strength bolts, except as noted otherwise
A490 High strength bolts for steel moment frames and braced frames

Concrete	f'c = 4000 psi Slab-on-grade
	f'c = 4000 psi Foundations
	f'c = 4000 psi Basement walls
	f'c = 5000 psi Moment frame columns and beams
	f'c = 4000 psi Concrete fill for metal deck
Reinforcing Steel	ASTM A615, Grade 60
	ASTM A706 in boundary elements of shear walls

Design Considerations

A. Stability

(1) Dead Load + Permanent Anchorage = 1.5 x Overturning
(2) Dead Load + Permanent Anchorage = 1.5 x Sliding

B. Load Combinations

Notation:

D - Dead Load
L - Live Load
W - Wind Load
E - The effect of horizontal and vertical induced earthquake forces
T - Internal Loads (thermal, shrinkage, creep)
H- Earth Pressure Load
F - Fluid Pressure Load
I - Impact Load

Lr - Roof Live Load
R - Rain or Ice due to pounding
S - Snow Load
AV - Peak Velocity - related acceleration
QE - Effect of horizontal seismic induced forces
E*- +1.0QE + 0.5AvD
E**- +1.0QE - 0.5AvD

(1) Ultimate Strength Design for Concrete Structures (ACI 318)

a. 1.4D + 1.7L
b. 0.75 (1.4D + 1.7L + 1.7W)
c. 0.9D + 1.3W
d. 1.2D + 1.0E* + (1.0L or 0.2S)
e. 0.9D + (1.3W or 1.0E**)
f. 1.4D + 1.7L +1.7H except where D or L reduce the effect of H then: 0.9D +1.7H
g. Substitute 1.4F for 1.7H in (f) if lateral water pressure exists.
h. 0.75 (1.4D + 1.4T + 1.7L) > 1.4 (D+T)
All load combinations listed above shall include both full value and zero value of L to determine the more sever condition.

(2) LRFD Design for Steel Structures (AISC)

a. 1.4D
b. 1.2 (D + F + T) + 1.6 (L + H) + 0.5 (Lr or S or R)
c. 1.2D + 1.6 (Lr or S or R) + (1.0L or 0.8W)
d. 1.2D + 1.3W + 1.0L + 0.5(Lr or S or R)
e. 1.2D + 1.0E* + (1.0L or 0.2S)
f. 0.9D + (1.3W or 1.0E**)

(3) ASD Design for Foundations

a. D
b. D + L
c. D + 0.75 (L + H + F + T + Lr or S or R)
d. D + 0.75 (L + H + F + T + Lr or S or R + W)
e. D + 0.75 (L + H + F + T + Lr or S or R) + E*/1.4
f. D + (W or 1.0E**/1.4)

6.5 MECHANICAL SYSTEMS DESCRIPTION

Special Design Considerations

Due to the specialized use of the building, there are some unique issues that are to be addressed during the subsequent design phases. These are summarized below.

- Humidity Control for lecture halls
- Dedicated VAV boxes for individual spaces
- Visual impact of rooftop equipment
- Acoustic and vibration control
- Location of air intakes and exhaust.
- Control of electrical line “noise” from equipment.
- Use of operable windows.
- Service access areaways for basement equipment.
- Connection to campus chilled water / steam
- Integration into campus control system
- Treatment of Outside Air due to freeway

Design Conditions

Outdoor summer and winter conditions shall be in accordance with 0.5% design conditions for summer and 0.2% design conditions for winter for the City of Riverside from Climatic Data for Region X as published by Golden Gate and Southern California Chapters of ASHRAE, 5th Edition, 1982 as outlined below:

Summer:
- Outdoor Dry Bulb: 115°F
- Outdoor Wet Bulb: 70°F
- Indoor Design Temperature: 75°F

Winter:
- Outdoor Dry Bulb: 34°F
- Indoor Design Temperature: 72°F

Indoor relative humidity: 50% ±20%

Minimum Ventilation

Per ASHRAE Standard 62-1999, with additional ventilation as required to compensate for building exhaust and space pressure requirements, if needed.

A demand controlled ventilation (DCV) system to be provided for dedicated systems serving high occupant areas which would result in lower energy use costs. Such a system utilizes carbon dioxide levels in the space as an indicator of actual occupant loads and modulates the

outside air intake quantity accordingly. CO_2 sensors to be located within this occupied spaces. It is designed to maintain the building at a slight (± 0.03" wg) net positive pressure relative to outdoors to control infiltration of contaminants.

Air Circulation

Minimum average air supply rate of 1.0 cfm/square foot of exterior zone conditioned area. Interior zones will be provided with minimum of 0.5 cfm/square foot of supply air during building peak load conditions to ensure adequate air movement.

Interior Loads

Lights: Average 1.5 watts/square foot in office and other areas.

Miscellaneous Equipment: Taken as 2.5 watts/square foot minimum.

Special Equipment: Supplemental cooling and/or ventilation will be provided in the design to accommodate loads due to copiers, A/V equipment, projectors, high desktop computer spaces, etc.

Accommodation for high latent loads in lecture halls is to be incorporated into the design by providing humidity control.

Occupants: In accordance with the Architectural program.

Infiltration: Load calculations to take infiltration effects into account per accepted ASHRAE methodology.

Ventilation and Exhaust Systems

Mechanical exhaust will be provided for toilets at the rate of 12 air changes per hour minimum. Other areas such as storage, telephone and electric equipment rooms, with negligible internal heat gain, etc., shall be exhausted as required to provide ventilation air. All exhaust terminations will be located to avoid reentry to the building.

Air Filtration

It is desired to have minimum 85% efficient filtration on the main air handling units with minimum 30% efficient filters for miscellaneous small capacity units.

Design of main air handling equipment/stations to have provision for the future addition of charcoal filter sections.

Indoor Air Quality

In addition to providing minimum ventilation and exhaust rates and air filtration as described above, a “bake-out/flush-out” procedure is to be implemented on part of the building commissioning process. The HVAC system will be utilized on the primary means of accomplishing this with supplemental heaters provided on an as-needed basis.

Further, use of interior duct lining will be kept to a minimum to satisfy noise mitigation requirements.

Equipment Sizing/Redundancy

In general, systems will be designed for approximately ***10%*** extra capacity due to both aging effects of the system and for future flexibility.

Vibration and Noise Control

System components will be evaluated to determine the most cost effective approach to controlling transmitted noise and vibration. This is especially crucial for those spaces, which are directly adjacent to the mechanical spaces. The Engineering Consultants must work closely with the Executive Architect and Acoustician to properly address these design and construction related issues as the design progresses.

Principal measures to include proper location of mechanical rooms, equipment selections with lower inherent noise levels, spring vibration isolation bases for equipment, thickened structural slabs at equipment bases, duct silencers, flexible couplings at rotating equipment and vibration isolation hangers for piping systems in proximity to pumps.

Where duct lining may be required at the inlet and discharge of large air handlers, its use will be limited to the extent possible.

Mechanical systems to be designed in accordance with standard accepted practice to control noise and vibration transmission to occupied spaces using UCR Standards and detailed requirements set forth by the Acoustical Consultant.

Anticipated coverage noise criteria levels as follows pending review by the Acoustical Consultant:

Classrooms	NC 30
Open Office Areas	NC 30
Private Offices	NC 30
Lecture Halls	NC 30
Circulation/Corridors	NC 40
Conference Rooms	NC 30

Controls and Energy Management

Controls and Energy Management System is to be furnished by one of the pre-approved campus vendors specializing in building automation systems. Controls for the proposed building must be fully compatible with the existing campus "Metasys" control system by Johnson Controls.

A direct digital control (DDC) controller will be installed in a designated Mechanical Room and will control and monitor the chilled and hot water systems, exhaust fans, air handlers and VAV terminal controllers, and all other miscellaneous equipment.

Pneumatic actuators will be used for large valve controls. VAV boxes to be equipped with DDC controls and be linked to the automation system. Equipment will be connected to the DDC controller via control cabling and an open protocol/interface panel (furnished by the equipment manufacturer).

It is anticipated that a local workstation will be provided at the building for connecting to the campus energy management and control system (EMCS). The specific needs must be discussed with campus facilities personnel during the early design phase.

Sustainable Design Features

In an effort to reduce energy consumption and conserve natural resources, the design team is to incorporate sustainable design features into the systems to the extent feasible. In large part, this is dictated by the Campus commitment to these principles and the budget constraints. Some of the anticipated features which are to be considered in the design are summarized below:

- Variable Air Volume (VAV) system
- Premium efficiency motors (≥1 HP)
- Dedicated HVAC systems for small 24 hour/day loads
- Air side economizers on main HVAC system(s)
- High performance air filtration (85% efficiency minimum)
- Proper VAV box zoning
- Full DDC control system for optimization
- CO_2 system to reduce outside air loads
- Building glass selection and overhangs/shading devices
- Variable speed pumping.
- Supply air temperature reset based on zone requirements.
- Evaporative pre-cooling of outside air.

The goal is to exceed the baseline Title 24 requirements by 20% for the overall energy usage. Title 24 analysis will be based on an approved program utilizing the performance approach.

Proposed Systems Description

Hydronic Systems

The hydronic systems equipment will be installed in a mechanical equipment room. Incoming mains from the campus distribution system will be extended to this location. The position of the mechanical equipment room will be located to minimize the length of the extension of the site utilities and to mitigate noise/vibration intrusion to sensitive spaces within the building.

Exact tie in locations and configuration, including valving, monitoring, controls, access, etc to be coordinated with campus facility personnel.

Chilled Water

Chilled Water will be provided from the campus chilled water mains with operating temperatures between 38°F to 40°F with a 42°F design temperature. Incoming supply and return temperatures will be remotely monitored, and recorded. Each air handling unit cooling coil to be provided with two-way modulating control valves.

Provision to be made to automatically (with manual override) make use of available system pressure in the main without the use of tertiary pumps during periods when system pressure is adequate to properly support the building needs.

Chilled water will be supplied to air handling equipment via two variable speed tertiary pumps. Pumps will be located in the basement mechanical room.

Space Heating Hot Water

Heating hot water will be provided from the nearby campus high pressure steam main.

The incoming steam will be converted to a 180°F low temperature hot water system by means of a heat exchanger.

Hot water will be supplied to air handling unit heating coils and select terminal unit reheat coil through two variable flow pumps controlled via VFD's.

Each air handling unit heating coil and terminal unit coil will be provided with two-way modulating control valves.

Air Handling Systems

General: A variable air volume (VAV) single duct type system with terminal controllers and hot water reheat coils for select zones will be used to serve the entire building.

Custom VAV air handling units will likely be located in the basement. Each unit will be comprised of the following major components:

Chilled water coil with stainless steel frame.
Hot water reheat coil for humidity controlled areas only.
Discharge air plenum section.
Supply fan section with variable speed drive.
Filter section.
Future carbon filter section.
Return/exhaust fan economizer section with variable speed drive.

Air Distribution: DDC controlled VAV terminal controllers with hot water reheat coils will be provided for individual zone temperature control.

Elevator Machine Room: ***A small fan coil*** will provide cooling to the elevator machine room as required by the elevator manufacturer.

Main Telephone/Main Data Room: ***A small fan coil*** will provide cooling to this space. Further discussion with campus personnel will determine the exact HVAC requirements for the Telephone/Data Room.

Overall system capacity will be selected to accommodate the high computer equipment density expected in the building.

Exhaust Systems

General Exhaust: General exhaust systems will be provided to serve toilets, janitor's closets, electrical, and other rooms requiring general exhaust.

Products/Services

Pumps: End suction centrifugal type**.** Paco or Grundfos.

Shell and Tube Heat Exchanger: Howard's or Repco Engineering, Inc.

Air Handling Units: Energy Labs, Temtrol, Hunt Air.

Exhaust Fans: Greenheck, Cook, Acme.

VAV Terminals: Enviro-Tec, Titus, Anemostat.

Ductwork: SMACNA Standards.

Hangers and Supports: F&M, Tolco, B-Line, Grinnell.

Insulation: Johns-Manville, Owens-Corning.

Sound Traps: IAC, Vibracoustics.

Air Filters: *AAF, Farr*.

Air Distribution: Titus, Krueger, Anemostat.

Variable Frequency Drives: AAB Inc., *Toshiba*.

Above Ground Piping: Standard weight steel or Type L Copper (≤4").

Valves: *Milwaukee*; Crane, Nibco, Stockham.

Flow Control Devices: Griswold or Autoflow.

Vibration Control: Mason or M.W. Sausse.

Building Automation: Johnson Controls or equal.

Test and Balance: Pre-qualified AABC Certified Firms.

6.6 PIPED SYSTEMS DESCRIPTION

Plumbing Systems

Domestic Cold Water

A lateral from the on site supply will feed a submeter and main shut off valve which will be located inside the building. Cold water will enter the building through a pressure reducing station, and will then be extended to all fixtures, equipment and other systems.

Domestic Hot Water

Domestic hot water will be generated by water to water heaters, using the low temperature building heating water as prime heating. During the early design phase, the domestic hot water load will be evaluated to determine the cost effectiveness of small storage type 277V electric water heaters in lieu of using a heat exchanger.

Sanitary Waste System

All wastes from the sanitary fixtures will be drained by gravity and connected to the existing sanitary sewer main adjacent to each building.

Storm Drain System

A primary and secondary overflow storm drain system will be provided for roof and area drains. The primary system will be connected to the storm drain main on site and the secondary system will spill to grade through curb faces or building overhangs.

Natural Gas

Based on current program requirements it is not anticipated that gas service to the building will be needed.

Fire Protection System

A lateral from the on site water supply will feed a double check backflow prevention device with a bypass “detector” meter, which will be located outside the building. It will be provided with a two-way fire department connection on the building system side.

Fire protection water will extend into each building to supply an automatic fire sprinkler system. This wet pipe, automatic fire sprinkler system will provide complete coverage utilizing floor control assemblies in stairwells to divide the building into zones.

Products and Materials

Plumbing Fixtures

- ADA approved.
- Water closets and urinals will be wall hung with water saving flush valves.
- Lavatories will be under countertop hung, vitreous china or integral countertop and bowl.

Sanitary Waste, Vent and Storm Drain Piping: Standard weight cast iron no-hub pipe with Husky stainless steel couplings above grade and below grade.

Domestic Water Piping: ASTM B-88, Type 'L' seamless copper tubing, cold drawn hard temper.

Fire Protection Piping: Schedule 40, black steel with 175 psi wp cast iron or butt weld steel fittings.

6.7 ELECTRICAL SYSTEMS DESCRIPTION

Electrical Systems

General

This program narrative is intended to describe the program design for the electrical power, lighting, and special systems to be included in Division 16 of the specifications.

Standards and Regulations Compliance:

All electrical work will be in compliance with the latest editions of applicable regulations and standards including, but not limited to, the following:

- American National Standards Institute (ANSI)
- Certified Ballast Manufacturers (CBM)
- Institute of Electrical and Electronic Engineers (IEEE)
- Insulated Cable Engineers Association (ICEA)
- National Bureau of Standards (NBS)
- National Electrical Manufacturers Association (NEMA)
- National Electrical Contractors Association (NECA)
- National Electrical Testing Association
- Underwriters' Laboratories Inc. (UL)

Minimum Requirements:

The above listed Standards and Regulations, and the Codes and Regulations listed in **Section 6.1** will form the basis of design as minimum requirements.

- Compliance with the State of California "Energy Compliance Standards," California
- Code of Regulations Title 24.

Load Calculation Criteria

Design Loads

Overall Connected Volt-Amperes (VA) per Square Foot.

Administrative Space		
Lighting	–	1.3
Receptacle	–	8.0
Classroom		
Lighting	–	1.6
Receptacles	–	25.0
Computer Labs		
Lighting	–	1.0
Receptacles	–	50.0
Copy/Supply/Mail		
Lighting	–	1.0
Receptacles	–	15.0
Corridors		
Lighting	–	0.6
Receptacles	–	0.5
Electrical Rooms		
Lighting	–	0.7
Receptacles	–	1.0
Class Labs		
Lighting	–	1.5
Receptacles	–	20.0
Multimedia Labs/Archive		
Lighting	–	1.2
Receptacles	–	20.0
Mechanical Rooms		
Lighting	–	0.7
Receptacles	–	1.0
Network Rooms		
Lighting	–	0.6
Receptacles	–	50.0

Office		
Lighting	–	1.3
Receptacles	–	5.0
Research Center		
Lighting	–	1.3
Receptacle	–	10.0
Research Spaces		
Lighting	–	1.3
Receptacle	–	8.0
Restrooms		
Lighting	–	0.6
Receptacles	–	0.5
Stairs		
Lighting	–	0.6
Receptacles	–	0.5
Storage Rooms		
Lighting	–	0.6
Receptacles	–	1.0
Telecommunications Room		
Lighting	–	0.6
Receptacles	–	30.0

Design Lighting Levels

Average Maintained Footcandles:		
Administration Spaces	–	40 - 50
Classrooms	–	40 - 50
Copy/Supply/Mail Rooms	–	35
Corridors	–	10 - 15
Electrical Rooms	–	35
Labs	–	50 - 60
Mechanical Rooms	–	35
Network Rooms	–	35
Offices	–	40 - 50
Restrooms	–	15 - 20

Stairs	–	15 - 20
Storage Rooms	–	10 - 15
Telecommunications Rooms	–	35

Main Electrical Service

The building will be supplied from the existing campus underground 12kV from the campus electrical distribution system. 15kV feeders will be routed from an existing manhole Number V4C to the outdoor SF6 switch.

Existing manhole Number V4C is located south of the building. The 15kV feeders will be installed in concrete encased ductbank. One feeder will be a primary service and another feeder will be a backup.

Feeders to both buildings will terminate in unit substations capable of supplying loads at 480Y/277V, 3 phase, 4 wire.

The unit substation rated 12kV, 480Y/277V, 3 phase, 4 wire transformer will serve a main service switchboard, rated 480Y/277V, 3 phase, 4 wire, which will supply all lighting, power and motor loads. A switchboard is located in the main electrical room of the building.

A microprocessor type of metering will be provided in the main service switchboard.

The main electrical room should have one set of doors to allow access outside and one set of doors opening into the building.

Electrical Distribution

480Y/277V and 208Y/120V distribution switchboards will be provided in the main electric room.

Distribution at 480Y/277V and 208Y/120V to panelboards, motor control centers, and packaged mechanical equipment will be by means of busway or cable feeders from distribution switchboards. The electrical distribution will have electrical risers for vertical power distribution in stacked electrical room for lighting, receptacle power and mechanical equipment.

Dry type transformers for 208Y/120V, 3 phase, 4 wire system will be located in electrical rooms.

Transformers will be general purpose type, copper wound 115° rise. Non-linear load type transformers (K-13) will be provided for computer loads. Isolation type transformers will be provided for classroom audio system.

Branch circuit panelboards (208Y/120V and 480Y/277V) will be installed in the electrical rooms and close to the loads they serve wherever practical. All panelboards will be fully bussed, 42 circuit and utilize bolt-on circuit breakers. Isolated-ground type of panelboards will serve computer loads.

A central suppression system will be provided as part of the Electrical Distribution System. The University will provide local UPS units in certain areas.

Motor control centers will be provided at the HVAC and plumbing equipment rooms.

Copper wiring and bussing will be used throughout.

Emergency Power

Exit lights and egress lighting in the stairs, corridors, electric and telephone rooms will be provided with battery back-up.

Voltages

- Utilization Voltages will be as follows:
- Fluorescent and HID Lighting: 277V, 1 phase.
- Exterior HPS Lighting: 277V, 1 phase.
- Motors Less than ½ HP: 120V, 1 phase.
- Motors ½ HP or greater: 480V, 3 phase.
- General Use receptacles: 120V, 1 phase.

General Lighting

General illumination for the building interior will conform to the energy limitation and control requirements of the California Conservation Code and the recommendations of the current edition of the IES Lighting Handbook.

Classrooms, Offices, Restrooms, Staff Room, and General Lighting will be commercial fluorescent type fixtures with T8, SPX Series 4100K fluorescent lamps and rapid start electronic ballasts. Fixtures will be recessed, surface or pendant mounted to suit the design.

Where recessed downlights are used, compact fluorescent lamps are provided. Incandescent lamps will be limited to special applications.

Exit signs will use long life LED type lamps with transfer relays.

Lighting in mechanical/electrical equipment rooms will be industrial type fluorescent fixtures with T8, SP Series 4100K lamps and rapid start electronic ballast.

Building exterior and site lighting areas will be illuminated as directed by the Architect. Fixtures will be controlled by the lighting control system.

Lighting Control

Lighting control system to meet Title 24 requirements.

Lighting in common areas shall be controlled by local wall switches and occupancy sensors. Lighting in offices will be controlled by occupancy sensors with dual level wall switches.

Exterior lighting will be controlled by photocall and time clocks.

In large classrooms local dimming system will be provided.

Grounding

A central grounding system will be provided for all the substations, switchboards, metallic conduits, and raceways. A main ground box with ground bus bar will be provided in each electrical room. A ground loop will be provided in the main electrical room. A ground conductor will be provided in each telephone and data room from the adjacent ground box.

The ground system resistance will be 5 ohm or less.

The service grounding will be provided at the service substation with Ufer ground, cold water lines and building steel.

All electrical equipments will be grounded.

6.8 SECURITY & FIRE PROTECTION SYSTEMS DESCRIPTION

Security Systems Infrastructure

System Description

The security systems will consist of an intrusion detection system, a door access and control system and a closed circuit video surveillance system.

The following rooms require security measures:

Archive Rooms
Computer Laboratories
Media Laboratories
Control Booths

All equipment and wiring will be provided by Owner under separate contact. The electrical contractor will provide backboards for equipment, conduit, cable tray and back boxes only.

The security system infrastructure will be comprised of the following:

Conduit	–	½" EMT minimum
Back Boxes	–	$4\ ^{11}/_{16}$" X $2\ ^{1}/_{8}$"

Fire Alarm System

An addressable-point fire alarm system will be designed for standard low rise building operation conforming to all state and local codes. The system will include an LCD display matching the campus supplier standard located at the first floor and a remote fire alarm LCD display located on an outside wall, at the Fire Department response point. Terminal cabinets will be located on each floor to serve various devices. The building fire alarm system shall report to the central campus fire alarm system via the fiber optics communication network. The system will include the following:

- Manual pull stations.
- Water flow alarms.
- Sprinkler valve tamper supervision.
- Complete photoelectric smoke detection throughout facility
- Automatic detection in equipment rooms.
- Elevator recall on fire condition.
- ADA strobes.
- Horns.

Campus preference is Simplex System.

The system will provide alarm and trouble signals to the University of California, Riverside Central Fire Alarm console via campus fire alarm proprietary cable plant.

All wiring shall be installed in conduit.

Fire Protection System

A lateral from the on site water supply will feed a double check backflow prevention device with a bypass “detector” meter, which will be located outside the building. It will be provided with a two-way fire department connection on the building system side.

Fire protection water will extend into each building to supply an automatic fire sprinkler system. This wet pipe, automatic fire sprinkler system will provide complete coverage utilizing floor control assemblies in stairwells to divide the building into zones.

6.9 INFORMATION TECHNOLOGY SYSTEMS DESCRIPTION

Communication Systems

The building will receive Voice/Data service from the campus communication network via a fiber optics system. Four (4) 4" Voice/Data service conduits will be run from the building communication room to the campus utility tunnel.

Voice/Data outlets will be provided in Classrooms, Offices, and Staff Rooms as per the programming requirements.

The Main Distribution Frame (MDF) will be located on the first floor. The room will be approximately 250 square feet.

Each floor will have vertically aligned Intermediate Distribution Frame (IDF) located so that the work station cable run will not exceed 250 square feet. Locate a pair of 4" diameter conduits from the roof to the upper most IDF.

The system will include complete riser cables, fiber optics, backboards, conduit, boxes, cable tray, hubs, and routers as described in the UCR Computing & Communications Campus Standard.

UCR Computing & Communications should be involved in the selection of IT & A/V equipment for the Interdisciplinary Studies Facility.

Locate an emergency phone at each floor near the elevator.

Provision will be made to bring satellite for cable TV into the building. Detailed requirements will be developed in the later design phases.

Future Capacity

All building utility systems should be designed to allow for a 10% expansion in capacity over time within the building.

7.1 BASIS OF COST PLAN

The University of California, Riverside has a total project budget for the CHASS Instruction and Research Facility of $32,127,000. This budget is based on the California Construction Cost Index No. CCCI4019. The total project costs include soft costs and project funded escalation. The construction Cost Plan for CHASS Instruction and Research Facility totals $25,951,000 for both building and site costs. This plan does not factor escalation or soft cost for the project into the construction costs.

The pricing is based on this space program and on dialogue with the project team, and assumes the following conditions of construction:

- The general contract will be competitively bid.
- There will not be small business set aside requirements.
- The contractor will be required to pay prevailing wages.
- There will be no phasing requirements or multiple packages.
- The general contractor will have full access to the site at all hours.
- Construction will occur during normal working hours.

7.2 INCLUSIONS & SCOPE

The project consists of a new 110,154 gross square feet CHASS Instruction and Research Facility. The building massing assumptions include four above grade floors. Mechanical penthouse space, if any, is assumed to be included in the gross floor area.

Program areas include Classroom Space, Instructional and Laboratory Space (dry type) with associated Support Space, Office Space and Administrative Space.

The building is to be located on a sloping site of approximately 150,000 gross square feet. Project site work includes site clearance, grading, and drainage, and excavation. There is a significant grade change of more than twelve feet from one end of the site to the other. As much as possible, the building will follow the slope of the site in order to minimize grading and retaining walls; however, it is expected that site costs related to grading, excavation, and retaining will be substantially larger than what would be expected for a flat site. In addition, the landscape development will need to incorporate ramps and stairs to accommodate this grade change for pedestrians.

There will also be extensive site utility work related to distribution of new water, sanitary sewer, storm sewer, chilled water, heating supply and return, incoming communication duct bank, and site lighting; work also includes the relocation of existing underground utilities including an existing 12" water main and existing duct banks.

In keeping with the UCR campus Long Range Development Plan landscape concept of a “chain of courtyards,” the building will form a series of intimate outdoor spaces in conjunction with neighboring buildings. These courtyards will serve as informal interaction spaces as well as outdoor teaching spaces, and include a dance arbor, a meditation court, and a Native American timeline, and an entry court. Project work will also include the redevelopment and/or replacement of some existing hardscape and landscape elements –including tennis courts and a shared service court—as needed. Project work therefore includes a substantial amount of paving and landscaping.

The estimate is based on the system descriptions given in this document, which briefly include:

Foundations:	The foundation includes continuous and spread reinforced concrete footings.
Substructures:	The substructure includes a 6“ slab on grade, 12“ concrete retaining walls waterproofing, and foundation drainage.

Superstructure:	The superstructure consists of structural steel moment or braced frame with metal deck and concrete topping. Steel to be fireproofed.
Stairs and Vertical Transportation:	Stairs are steel framing with steel pan, concrete filled, and architectural stair at lobby. Also included are three hydraulic elevators and two lifts for the disabled.
Exterior Closure:	Exterior closure consists of 4” brick veneer with steel stud wall and drywall inner lining behind. Also included are window walling and punched windows
Roofing:	Roofing includes built up roofing with rigid insulation, flashings.
Interiors:	Interior construction consists of metal studs gypsum board partitions; interior doors are hollow metal, woods, etc. on metal frame. Wall finishes include paint, ceramic tile; flooring includes carpet, VCT, Ceramic tile, and sealed concrete.
Mechanical:	Installation includes plumbing, heating, ventilation, air conditioning, and fire protection systems. The utility tunnel will not be connected to the building, utility lines to be buried
Electrical:	Includes distribution, lighting and power and any special systems e.g. communication and fire and life safety systems.
Equipment:	Functional equipment included general building accessories i.e. toilet partitions and accessories code signage, fire extinguishers, marker boards, window blinds, and projection screens. Allowances are also included for millwork, display cabinets and shelving.
Sitework:	Site preparation includes for general site clearing and rough grading and any excavation to reduce levels. Site development includes paving of sidewalks and plaza, retaining walls, fencing, seat walls, landscaping allowances for lawns and shrubs. Site utilities include sanitary, storm water, chilled water incoming ductbank and relocation of existing ductbank.

7.3 EXCLUSIONS

The following items are specifically excluded from the estimate:

- Design, testing, inspection or construction management fees
- Architectural and design fees
- Scope change and post-contract contingencies
- Assessments, taxes, finance, legal and development charges
- Environmental impact mitigation
- Builder's risk, project wrap-up, and other owner provided insurance programs
- Owner supplied and installed furniture, fixtures, and equipment
- Loose furniture and equipment except as specifically identified
- Seating and benches in instructional and research laboratories and classrooms
- Security equipment and devices including wiring and surveillance equipment
- Audio visual equipment, CCTV cameras and controls
- Hazardous material handling, disposal and abatement
- Compression of schedule, premium or shift work, and restrictions on the contractor's working hours
- Uninterrupted Power Source (UPS) – by User
- Utility tunnel and connections
- Telecommunications connections with other buildings
- Legal and financing costs
- Paging systems, master clock/remote clocks
- Emergency Generator, panelboards, and transformer
- Lightning protection

7.4 ITEMS AFFECTING COST ESTIMATE

Items which may change the estimated construction cost include, but are not limited to:

- Modifications to the scope of work included in this estimate.
- Unforeseen sub-surface conditions.
- Special phasing requirements.
- Restrictive technical specifications or excessive contract conditions.
- Any specified item of equipment, material, or product that cannot be obtained from at least three different sources.
- Any other non-competitive bid situations.

7.5 OVERALL SUMMARY

	Gross Floor Area	$/SF	$ x 1,000
Building	110,158	216.84	23,886
Sitework	110,158	18.74	2,065
TOTAL Building & Sitework Construction	110,158	235.58	25,951

7.6 BUILDING COMPONENT SUMMARY

DETAILED PROJECT PROGRAM COST PLAN — **OGSF :** **110,154**

BUILDING COMPONENT SUMMARY

			Construction Cost with markups broken out		Construction Cost with markups rolled up	
			$/OGSF	Cost ($x1,000)	$/OGSF	Cost($x1,000)
1	Foundations		5.14	566	6.47	713
2	Vertical Structure		12.09	1,332	15.23	1,678
3	Floor and Roof Structures		21.03	2,317	26.50	2,919
4	Exterior Cladding		34.02	3,747	42.85	4,720
5	Roofing and Waterproofing		6.04	665	7.60	838
	Shell (1-5)		78.32	8,627	98.65	10,867
6	Interior Partitions, Doors & Glazing		14.03	1,545	17.67	1,946
7	Floor, Wall & Ceiling Finishes		9.31	1,026	11.73	1,292
	Interiors (6-7)		23.34	2,571	29.40	3,239
8	Function Equipment and Specialties		5.83	642	7.34	809
9	Stairs & Vertical Transportation		5.05	556	6.36	700
	Equipment & vertical Transportation (8-9)		10.88	1,198	13.70	1,509
10	Plumbing Systems		4.08	450	5.14	567
11	Heating, Ventilating & Air Conditioning		24.75	2,726	31.17	3,434
12	Electric Lighting, Power & Communications		27.78	3,060	34.99	3,855
13	Fire Protection Systems		3.00	330	3.78	416
	Mechanical & Electrical (10 - 13)		59.61	6,566	75.09	8,271
	Total Building Construction (1 - 13)	(Sub 1)	**172.14**	**18,962**	**216.84**	**23,886**
14	Site Preparation and Demolition	Sub (0)	0.00	0	0.00	0
15	Site Paving, Structures & Landscaping	Sub (4)	0.00	0	0.00	0
	Utilities on Site	Sub (2)	0.00	0	0.00	0
	Total Site Construction (14 - 16)		**0.00**	**0**	**0.00**	**0**
	TOTAL BUILDING & SITE (1 - 16)*		**172.14**	**18,962**	**216.84**	**23,886**
	General Conditions	8.00%	13.77	1,517		
	Contractors Overhead & Profit or Fee	4.00%	7.44	819		
	Base budget as of date of estimate		**193.35**	**21,298**		
	Subtotal		**193.35**	**21,298**		
		Years **Annual Inflation**				
	Escalation from date of estimate to July1 of budget year (2003)	1.25 2.50%	6.04	666		
	Anticipated CCCI escaltion from July1 of Budget year to July1 of appropriation Year (2004)	0.00 0.00%	0.00	0		
	Approp Yr to bid and mid pt constr	2.50 3.50%	34.36	1,922		
	ESTIMATED CONSTRUCTION BUDGET		**216.84**	**23,886**		

for building component summary back up see appendix

7.7 SITEWORK COMPONENT SUMMARY

DETAILED PROJECT PROGRAM COST PLAN — **OGSF :** 110,154

SITE COMPONENT SUMMARY

			Construction Cost with markuos broken out		Construction Cost with markups rolled up	
			$/OGSF	Cost ($x1,000)	$/OGSF	Cost($x1,000)
1	Foundations		0.00		0.00	0
2	Vertical Structure		0.00		0.00	0
3	Floor and Roof Structures		0.00		0.00	0
4	Exterior Cladding		0.00			0
5	Roofing and Waterproofing		0.00		0.00	0
	Shell (1-5)		0.00		0.00	0
6	Interior Partitions, Doors & Glazing		0.00		0.00	0
7	Floor, Wall & Ceiling Finishes		0.00		0.00	0
	Interiors (6-7)		0.00		0.00	0
8	Function Equipment and Specialties		0.00		0.00	0
9	Stairs & Vertical Transportation		0.00		0.00	0
	Equipment & vertical Transportation (8-9)		0.00		0.00	0
10	Plumbing Systems		0.00		0.00	0
11	Heating, Ventilating & Air Conditioning		0.00		0.00	0
12	Electric Lighting, Power & Communications		0.00		0.00	0
13	Fire Protection Systems		0.00		0.00	0
	Mechanical & Electrical (10 - 13)		0.00	0	0.00	0
	Total Building Construction (1 - 13)	(Sub 1)	**0.00**	**0**	**0.00**	**0**
14	Site Preparation and Demolition	Sub (0)	2.15	237	2.71	299
15	Site Paving, Structures & Landscaping	Sub (4)	8.09	891	10.19	1,122
	Utilities on Site	Sub (2)	4.64	511	5.84	644
	Total Site Construction (14 - 16)		**14.88**	**1,639**	**18.74**	**2,065**
	TOTAL BUILDING & SITE (1 - 16)*		**14.88**	**1,639**	**18.74**	**2,065**
	General Conditions	8.00%	1.19	131		
	Contractors Overhead & Profit or Fee	4.00%	0.64	71		
	Base budget as of date of estimate		**16.71**	**1,841**		
	Subtotal		**16.71**	**1,841**		
		Years **Annual Inflation**				
	Escalation from date of estimate to July 1 of budget year(2003)	1.25 2.50%	0.52	58		
	Anticipated CCCI escalation fromJuly1 of Budget year to July1 of appropriation Year (2004)	0.00 0.00%	0.00	0		
	Yr to bid and award to mid pt constr	2.50 3.50%	2.97	166		
	ESTIMATED CONSTRUCTION BUDGET (as of July 1 of Budget Year)		**18.74**	**2,065**		

for sitework component summary back up see appendix

8.1 BUILDING PROGRAM COMMITTEE MEETING MINUTES

APPENDIX

8.1

Meeting Minutes

Building Committee Meeting, Held at UCR CHASS, 1:00pm – 3:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Building Committee Meeting 1

MEETING DATE: Tuesday, December 4, 2001

DISTRIBUTION: (✓*indicates attendance at meeting*)

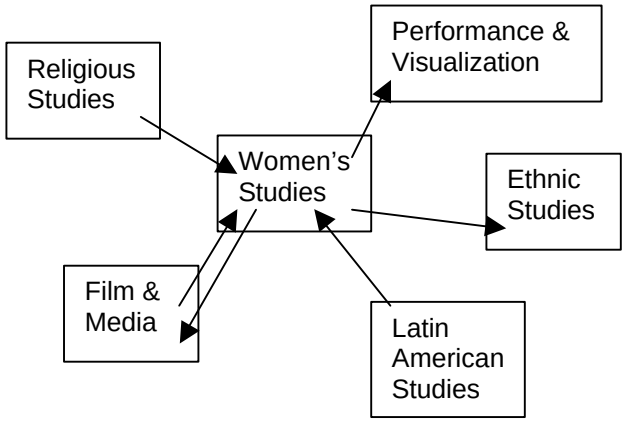
- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
- ✓ Nita Bullock, UCR C&PP
- ✓ Polly Brietkreuz, UCR C&PP
- ✓ Dan Johnson, UCR PD&C
- ✓ Ted Chiu, UCR PD&C
- ✓ Christine Gailey, UCR CHASS, WS – Chair
- ✓ James Brennan, UCR CHASS, H – Co-Chair
- John Ganim, UCR CHASS, E
- Ed Chang, UCR CHASS, ES
- Vivian Nyitray, UCR CHASS, RS
- Debbie Wong, UCR CHASS, M
- ✓ Patricia Morton, UCR CHASS, AS
- ✓ Sharon Salinger, UCR CHASS
- ✓ Sandi Evelyn-Veere, UCR CHASS
- ✓ Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	12/04	**1.0**	**Introductions**
	12/04	**2.0**	**CHASS 1 Project Goals**
Info.			CHASS Bldg. 1 should literally embody the interdisciplinary links between the departments and programs that will occupy the building. Traditionally non-bound programs will be grouped in one building for the first time.
Info.			CHASS goals: 1. Outreach to first generation students 2. Engagement with the larger community 3. Excellence and convergence within research and teaching. 4. Fusion of Academic and non-academic functions.
Info.			Women's Studies would like to be located on the first floor to improve visibility and minimize the social barrier for first time visitors to the department.
Info.			Shared office and support spaces have not been successful in the Fine Arts Building
Info.			Gathering spaces like conference rooms and faculty lounges must be near hubs of circulation. Circulation should flow through and link different department spaces.

Info.			CHASS 1 should accommodate/encourage the vibrancy of Native American Studies. Many of the programs are visually rich – gallery or display spaces are important for each department and could help identify these departments if planned as way-finding devices.
Info.			Each existing department (Women's Studies, Ethnic Studies and Religious Studies) currently has, and will need, its own administrative unit. The Interdisciplinary Programs will not have the same administrative needs as a department, but Latin American Studies, Native American Studies, Performance & Visualization and Film and Media may grow to need an administrative "hub". *Latin American Studies, Asian Studies, HA&SS Interdisciplinary (an individualized major) & Film and Visual Culture (not Performance & Visualization and Film) currently are provided administrative support under the umbrella of Liberal Studies & Interdisciplinary Programs. The Dean would like to separate the IP's from Liberal Studies. We will need to continue discussion as to the best method to meet student advising and administrative needs of these programs, i.e., combined or separate administrative support.* *N.B. Native American Studies is under the Ethnic Studies Department and Performance & Visuality is a graduate degree proprosal currently being developed by faculty within the College.*

CHASS Building 1 teaching connections:



Info.			Women's Studies has a separate research arm, Women in Coalition.
EHDD C&PP	12/04	2.1	CHASS 1 may accommodate a Research Center. Additional discussion with Dean O'Brien is required. *An initial meeting with Dean O'Brien has been scheduled for 12/13.*
	12/04	**3.0**	**Academic Programs**
Info.			Ethnic Studies Comparative studies of ethnic groups within American society – African American Studies, Chicano/Chicana Studies, Asian American Studies and Native American Studies. It is seen as moving toward a less insular model.
Info.			Religious Studies Comparative, historical and analytic study of international faith based belief

			systems.
Info.			Women's Studies Internationally focused (the only program in the US), theoretical and practical analysis, comparative and historical studies of gender and sexuality.
EHDD C&PP	12/04	3.1	Focus Group meetings should be conducted with each interdisciplinary program. Communication between the groups was deemed critical.
All	12/04	3.2	The following is an initial pass at ranking of CHASS program's visibility as viewed from a campus perspective: (High)Ethnic Studies, (Medium)Religious Studies, (Low)Women's Studies, (L)Chicano Art & Social Action, (H)Film & Media, (L)Latin American Studies, (M)Native American Studies, (L)Performance & Visuality, (L) Research Center Incubator, (L)Asian Pacific Americans/Southeast Asian, (H)Other interdisciplinary Programs(LGBTI). The goal would be to pull lower visibility programs into a higher visibility space within the building. This list needs to be confirmed with the interdisciplinary program representatives during focus groups.
	12/04	**4.0**	**Teaching Spaces**
Info.			Teaching spaces should be flexible enough for the instructor to determine the pedagogy – i.e. raked seating that still allow students to convene in small groups.
Info.			Classrooms should have natural light and sight lines that allow the instructor to see all students, and students to see one another.
Info.			35-40 student classrooms are discussion section sized. 50 – 60 student classrooms are upper division class sized. A 75 seat classroom would accommodate today's 60 student class in 2010.
Info.			Cluster Courses (cross discipline courses) are taught to 150 – 200 students.
Info.			An initial classroom scenario based on space for 800 students - 12,000 asf at 15 sf per student: (1) 200 seat, (1) 150 seat, (2) 80 seat, (5) 40 seat. *Note: 20 sf per student is more likely.*
	12/04	**5.0**	**Faculty Office Space**
Info.			Current faculty offices are 117 – 140 asf. 135 asf is campus standard.
Info.			Two different office types for CHASS 1 based on discipline: book driven space or media driven space. Each has different storage needs.
Info.			Typical office furniture- desk with return, 2 guest chairs, 2 lateral files, 5 bookcases.
Info.			Controlled natural light is desired for all faculty offices.
Info.			Campus standard 20 ga wall studs will allow shelf brackets to be mounted on the whole wall.
C&PP	12/04	5.1	Bob Hanneman can provide campus faculty office IT baseline.
	12/04	**6.0**	**Meeting Space**
Info.			Seminar rooms (shared) for departmental scaled presentations for 16-20 occupants.
Info.			Conference rooms (shared) for 12 – 20 occupants.
Info.			Project rooms/Design Rooms (could be occupied quarterly) for less than 12 – for student and faculty use.
Info.			Breakout rooms can be used for confidential TA as well.
	12/04	**7.0**	**Research Space**
C&PP	12/04	7.1	Media labs and for Film and Media, and Performance and Visualization require focus group discussion.
Info.			All other programs' research will be project and group-work based.
	12/04	**8.0**	**Other Spaces**
Info.			TA offices – "bull pen" arrangements have had mixed success. Typically 3 TA's

			share one office, and schedule office hours separately.
Info.			Graduate student offices work best if grouped together. If not, a grad student lounge must be provided.
Info.			Shared printer and copy rooms can function as a collegial hub, especially for graduate students.
Info.			Academic units need to be co-located; interdisciplinary interaction depends on initial program coherence.
Info.			Departmental library needs should be accommodated.
	12/04	**9.0**	**Schedule**
All	12/04	9.1	8:00am 12/14 – existing facilities tour.
All	1/08/02	9.2	1:00pm – 3:00pm – Building Committee Meeting No. 2
All	1/15/02	9.3	1:00pm – 3:00pm – Building Committee Meeting No. 3
All	1/22/02	9.4	1:00pm – 3:00pm – Building Committee Meeting No. 4
			End

The above represents the author's understanding of the significant discussions during the referenced meeting. Additions or corrections to the minutes should be brought to the attention of the author no later than the next successive meeting. Where information subsequent to the meeting is added to the notes, this information will be indicated {italicized}.

Meeting Minutes

Building Committee Meeting, Held at UCR CHASS, 1:00pm – 3:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Building Committee Meeting 2

MEETING DATE: Tuesday, January 8, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

Tim Ralston, UCR C&PP
✓ Tony Cook, UCR C&PP
Nita Bullock, UCR C&PP
✓ Polly Brietkreuz, UCR C&PP
Dan Johnson, UCR PD&C
Ted Chiu, UCR PD&C
✓ Christine Gailey, UCR CHASS, WS – Chair
✓ James Brennan, UCR CHASS, H – Co-Chair
John Ganim, UCR CHASS, E
✓ Ed Chang, UCR CHASS, ES
✓ Vivian Nyitray, UCR CHASS, RS
✓ Debbie Wong, UCR CHASS, M
Patricia Morton, UCR CHASS, AS
✓ Sharon Salinger, UCR CHASS
✓ Sandi Evelyn-Veere, UCR CHASS
Chuck Davis, EHDD
✓ Tom Heffernan, EHDD (author)
✓ Donna Muller, EHDD

OLD BUSINESS:

Action req'd by	Date	Item #	Description
		2.0	**Project Goals**
EHDD C&PP	12/04	2.1	CHASS 1 may accommodate a Research Center. Additional discussion with Dean O'Brien is required. *An initial meeting with Dean O'Brien was held on 12/13.*
		3.0	**Academic Programs**
EHDD C&PP	12/04	3.1	Focus Group meetings should be conducted with each interdisciplinary program. *The first focus group meeting was held on 12/13.*
		5.0	**Faculty Office Space**
C&PP	12/04	5.1	Bob Hanneman can provide campus faculty office IT baseline.
		7.0	**Research Space**
EHDD C&PP	12/04	7.1	Media labs and for Film and Media, and Performance and Visualization require focus group discussion.
EHDD	01/08	7.2	Additional separate meetings should be held with: Mike Kenny (sp?) - head of Latin American Studies Emory Elliot – director of Ideas in Society Research Center Chuck Rowley – director of Computing and Communications re: Media Lab **End**

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www.ehdd.com

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	01/08	**8.0**	**Site Selection**
Info			After discussing the merits of two possible sites for CHASS1 consensus was that the best site was across the mall from the Arts Building. *The Campus Physical Planner has determined that CHASS1 shall be sited across the Main Mall from the Arts building, south of the proposed Alumni & Visitors Center, and west of the Physical Education Building and Student Commons Expansion.*
	01/08	**6.0**	**Meeting Space**
Info.			Home base concept is presented – conference, administrative and scholarly activity space as a way for programs and departments to create a sense of identity for their students.
Info.			Departments are big and complex, with administrative needs. Programs could share administrative resources or have administrative needs met by faculty's home departments.
Info.			Staff proximity to scholarly activity space works for monitoring of those spaces.
	01/08	**10.0**	**TA's**
Info.			TA office proximity to instructional space isn't so important since TA's are associated with specific departments of programs, but classrooms are general assignment space.
Info.			Individual TA offices are unrealistic due to high cost.
EHDD	01/08	10.1	Consensus is that 3 TA's per office works best. Room layout will be revised to show two workstations on one wall, one on the opposite wall.
Info.			No program will have TA offices with enough specific needs to warrant a special office type.
	01/08	**4.0**	**Teaching Space**
Info.			A table with a tabletop lectern is recommended as a more flexible furniture arrangement for classroom instructors than a lectern or desk.
Info.			Tablet-arm chairs are unpopular with both students and faculty; training tables with chairs offer the most flexibility for classrooms under 80 seats.
Info.			White boards should extend the full width of the front wall; tack boards are not typically necessary.
Info.			Mount projection screens to clear white board pencil trays.
Info.			Daylight control in classrooms is important for projection quality. Consider the requirements for blinds, window sizes and sidelights. Discussion of the value of door vision panels or sidelights is inconclusive.
Info.			Distributed learning classrooms would be useful, especially a smaller size with a control booth (Like Watkins 1000). Seating should be fixed and swivel 270 degrees.
Info.			After discussion, case study classrooms seem less useful that 45 person classrooms.
Info.			Seminar rooms should seat 15 and 30 at tables with chairs.
	01/08	**5.0**	**Faculty Office Space**
EHDD	01/08	5.2	Alternate furniture arrangements will be investigated for faculty offices.
Info.			No sidelights at faculty offices; only transom lights. Cross corridor faculty office doors should be staggered.
			End

The above represents the author's understanding of the significant discussions during the referenced meeting. Additions or corrections to the minutes should be brought to the attention of the author no later

than the next successive meeting. Where information subsequent to the meeting is added to the notes, this information will be indicated {italicized}.

Meeting Minutes

Building Committee Meeting, Held at UCR CHASS, 1:00pm – 3:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Building Committee Meeting 3

MEETING DATE: Tuesday, January 22, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
- ✓ Nita Bullock, UCR C&PP
- ✓ Polly Brietkreuz, UCR C&PP
- Dan Johnson, UCR PD&C
- Ted Chiu, UCR PD&C
- ✓ Christine Gailey, UCR CHASS, WS – Chair
- ✓ James Brennan, UCR CHASS, H – Co-Chair
- John Ganim, UCR CHASS, E
- ✓ Ed Chang, UCR CHASS, ES
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- ✓ Debbie Wong, UCR CHASS, M
- Patricia Morton, UCR CHASS, AS
- ✓ Sharon Salinger, UCR CHASS
- ✓ Sandi Evelyn-Veere, UCR CHASS
- ✓ Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

OLD BUSINESS:

Action req'd by	Date	Item #	Description
		2.0	**Project Goals**
EHDD C&PP	12/04	2.1	CHASS 1 may accommodate a Research Center. Additional discussion with Dean O'Brien is required. *An initial meeting with Dean O'Brien was held on 12/13.*
		3.0	**Academic Programs**
EHDD C&PP	12/04	3.1	Focus Group meetings should be conducted with each interdisciplinary program. *The first focus group meeting was held on 12/13.*
		5.0	**Faculty Office Space**
C&PP	12/04	5.1	Bob Hanneman can provide campus faculty office IT baseline.
EHDD	01/08	5.2	Alternate furniture arrangements will be investigated for faculty offices.
		7.0	**Research Space**
EHDD C&PP	12/04	7.1	Media labs for Film and Media and Performance and Visualization require focus group discussion.
EHDD	01/08	7.2	Additional separate meetings should be held with: Mike Kenny (sp?) - head of Latin American Studies Emory Elliot – director of Ideas in Society Research Center Chuck Rowley – director of Computing and Communications re: Media Lab
		10.0	**TA's**
EHDD	01/08	10.1	Consensus is that 3 TA's per office works best. Room layout will be revised to show two workstations on one wall, one on the opposite wall.
			End

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	01/22	**2.0**	**Project Goals**
EHDD	01/22	2.2	C&PP states the following workload figures as confirmed by Dean O'Brien: Ethnic Studies: 15 FTE Religious Studies: 10 FTE Women's Studies: 10 FTE Chicano Art & Social Activism: 6 FTE Film & Visual Culture: 10 FTE Latin American Studies: 20 FTE Native American Studies: 7 FTE Digital Studies (nee Performance & Visuality): 7 FTE Asian Pacific American / Southeast Asian Studies: 10 FTE Other Interdisciplinary Programs: 10 FTE Total: 105 FTE
EHDD C&PP	01/22	2.3	Conference with the Chair of Religious Studies is required.
	01/22	**5.0**	**Faculty Office Space**
EHDD	01/22	5.3	C&PP confirms that UCOP has agreed to 139 asf for faculty offices. The committee verifies that because of the amount of "small teaching" that takes place, faculty offices should be as large as possible.
	01/22	**11.0**	**Interdisciplinary Space**
Info.			What kinds of spaces bring people together informally? Faculty mail rooms, food & coffee, soft seating. It is noted that property will never be shared between faculty and departments (i.e. book collections and other resources), but informal interaction space could be shared.
Info.			Ways faculty interact informally? Coffee, brown bag lunches, colloquia, seeking each other out.
Info.			Would mixing up faculty offices encourage informal interaction? Consensus was that perhaps a department's or program's faculty offices would benefit from dispersion, but that the other half should be grouped together. Junior faculty might realize more benefit from adjacency to their home department or administrative hub. Senior faculty would benefit from a cross-discipline mix of offices. Administrative staff should always remain discreet entities.
Info.			Periodic faculty office reassignment would be an extremely unpopular way to encourage "mixing things up". Research center offices are reassigned on a per project basis however. The Center for Ideas in Society might benefit from separate project space.

Info.			Clarification of what's interdisciplinary about CHASS: Interdisciplinary collaboration is driven by instruction. The 3 departments and degree granting programs teach undergraduates across traditional departmental lines. The collaboration is typically *not* research driven. In light of the "publish or perish" pattern CHASS research is largely a singular, office-based pursuit. Any research support carried by students or research assistants is also done independently. The science lab analogy, with a Principal Investigator supported by grad student research assistants at the lab bench, does not fit text-based research. The library is lab space for the humanities.
Building Commit-tee	01/22	11.1	CHASS 1 aspires to create space for interdisciplinary activities that create opportunities beyond individual faculty offices.
Info.			Planned events (departmental and committee meetings) are the best way to engage commuter faculty.
Info.			Clusters of faculty offices might get faculty into each others offices – doors are probably more likely to be left open.
Building Commit-tee	01/22	11.2	Clusters of faculty who share academic affinity seems like a way to break down departmental segregation and increase informal interaction. Groupings like cultural studies, history & anthropology and globalization were mentioned. The Building Committee agrees to develop a list of possible faculty clusters.
Info.			Student research is both individual and group oriented. Group work needs space.
Info.			The Performance & Visuality "café" type space should be as public as possible.
	01/22	**5.0**	**Faculty Office Space**
EHDD	01/22	5.3	The space summary should be revised to omit offices for visiting scholars and emeritus. Post doctoral researchers can have offices.
	01/22	**4.0**	**Teaching Space**
Info.			There is value in locating instructional space on upper floors – some student traffic on upper levels can activate otherwise dead parts of a building. However, security is more difficult.
Info.			Security needs could be addressed in a couple of ways: 15 – 30 student seminar rooms on upper levels would keep the traffic level reasonable. Departmental instruction space (class labs) could be located on upper floors; general assignment classrooms could be located on the lower, more public floors. **End**

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Meeting Minutes

Building Committee Meeting, Held at UCR CHASS, 1:00pm – 3:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Building Committee Meeting 4

MEETING DATE: Tuesday, January 29, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
- ✓ Nita Bullock, UCR C&PP
- ✓ Polly Breitkreuz, UCR C&PP
- Dan Johnson, UCR PD&C
- Ted Chiu, UCR PD&C
- Christine Gailey, UCR CHASS, WS – Chair
- ✓ James Brennan, UCR CHASS, H – Co-Chair
- John Ganim, UCR CHASS, E
- ✓ Ed Chang, UCR CHASS, ES
- Vivian Nyitray, UCR CHASS, RS
- ✓ Debbie Wong, UCR CHASS, M
- Patricia Morton, UCR CHASS, AS
- ✓ Sharon Salinger, UCR CHASS
- ✓ Sandi Evelyn-Veere, UCR CHASS
- Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

OLD BUSINESS:

Action req'd by	Date	Item #	Description
		2.0	**Project Goals**
EHDD C&PP	01/22	2.3	Conference with the Chair of Religious Studies is required.
		5.0	**Faculty Office Space**
C&PP	12/04	5.1	Bob Hanneman can provide campus faculty office IT baseline.
EHDD	01/08	5.2	Alternate furniture arrangements will be investigated for faculty offices.
EHDD	01/22	5.3	C&PP confirms that UCOP has agreed to up to 140 asf for faculty offices.
EHDD	01/22	5.4	The space summary should be revised to omit offices for visiting scholars and emeritus. Post doctoral researchers can have offices.
		7.0	**Research Space**
EHDD C&PP	12/04	7.1	Media labs for Film and Media and Performance and Visualization require focus group discussion.
EHDD	01/08	7.2	Additional separate meetings should be held with: Mike Kenny (sp?) - head of Latin American Studies Emory Elliot – director of Ideas in Society Research Center Chuck Rowley – director of Computing and Communications re: Media Lab
		10.0	**TA's**
EHDD	01/08	10.1	Consensus is that 3 TA's per office works best. Room layout will be revised to show two workstations on one wall, one on the opposite wall.
		11.0	**Interdisciplinary Space**
Building Commit-tee	01/22	11.1	Clusters of faculty who share academic affinity seems like a way to break down departmental segregation and increase informal interaction. Groupings like cultural studies, history & anthropology and globalization were

mentioned.
The Building Committee agrees to develop a list of possible faculty clusters.
End

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	01/29	**2.0**	**Project Goals**
Info			The Committee reiterates that for junior faculty departmental identity and affiliation are crucial for promotion and advancement.
Info			Latin American Studies is not envisioned to have departmental status, and therefore will not need the autonomy that the three departments, Ethnic Studies, Religious Studies and Women's Studies, will.
	01/29	**11.0**	**Interdisciplinary Space**
Info.			Faculty collaboration in the Humanities is largely event based (i.e. conferences, etc.) rather than on-going research based.
Info.			Graduate research is also mainly solo, but colloquia are group based.
Info.			Work rooms that can be signed out would be useful for group projects.
Info.			Since the Programs are by nature interdisciplinary, clustering each program's faculty together could create the "fertile mix" envisioned for CHASS 1.
Info.			Because other office types beyond faculty are planned for CHASS 1, coupling a Post Doc office and a couple of graduate student offices between faculty offices could provide the framework for a research group.
	01/29	**5.0**	**Faculty Office Space**
Info			Department Chairs require proximity to staff
Info.			Since the Programs are by nature interdisciplinary, clustering each program's faculty together could create the "fertile mix" envisioned for CHASS 1.
BC	01/29	5.5	Professor Brennan and Professor Gailey will canvas the programs for their adjacency preferences. The Committee's initial pass at these groupings follows as BC4 Attachment A. *EHDD received completed Focus Group Questionnaires from most of the programs on 2/7/02, which include adjacency preferences.*
EHDD	01/29	5.6	EHDD will submit to C&PP and abridged questionnaire addressing each program's class lab needs and program affinities. *EHDD submitted the abridge questionnaire on 1/30/02.* *These 2 questions were thoroughly addresses in many of the responses to the original Focus Group Questionnaire received on 2/7/02.*
		10.0	**TA's**
Info.			Some TA offices should be adjacent to class labs.
			End

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8.2 INSTRUCTIONAL SPACE COMMITTEE MEETING MINUTES

Meeting Minutes

Instructional Space Committee Meeting, Held at UCR CHASS, 3:00pm – 5:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Instructional Space Committee Meeting 1

MEETING DATE: Tuesday, December 4, 2001

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
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- ✓ Dan Johnson, UCR PD&C
- Ted Chiu, UCR PD&C
- ✓ Susan Carter, UCR CHASS, Economics
- ✓ Gary Scott, UCR CNAS, Chemistry
- ✓ Robert Hanneman, UCR CHASS, Sociology
- Carl Cranor, UCR Academic Senate
- ✓ Richard Sutch, UCR CHASS, Economics
- ✓ Chuck Rowley, UCR Comp. &Communications
- Elizabeth Bennet, UCR Registrar
- ✓ Sandi Evelyn-Veere, UCR CHASS
- ✓ Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	12/04	**1.0**	**Introductions**
	12/04	**2.0**	**Instructional Space Needs**
C&PP	12/04	2.1	Since there will be 12,000 asf of general assignment classroom space in CHASS 1, whole campus needs for instructional space should be assessed. There currently exists no comprehensive analysis of future campus-wide need.
Info.			Distinction is made between classrooms – controlled by the Registrar, and class labs – controlled by departments. Open class labs, i.e. drop-in computer and media labs, are department controlled, but do not report utilization rate.
C&PP	12/04	2.2	The committee suggests that a baseline quantification, which correlates the student population, teaching loads, and number and sizes of classrooms, could at least yield straight-line projections to 2010, to begin a needs assessment.
Info.			In the face of a flattening graduate student population, is it possible to leverage technology to ease the burden of section meetings? It is noted that some sections are conducted by lecturers.

Info.			Pedagogical shifts suggest a combination of lecture and self-guided instruction will emerge in the upcoming years; TA's will teach in a variety of ways. For instance during a flexible section meeting time: TA1 will address problem x with 50 students TA2 will address problem y with 3 students Students with no questions will do group work TA3 will conduct a small group section i.e. flexible needs demand flexible space. This would be best facilitated if all instructional space within a building were department-controlled space.
Info.			The "learning emporium" model suits the needs of diverse student body. Many students work, commute or have families. They need access to help around the clock. The food court-like arrangement of a learning emporium can provide a variety of "help desk" learning resources to students 24 hours a day, and create a setting conducive to collaborative learning.
Info.			It is noted that the departments in programs selected for CHASS 1 are particularly suited to collaborative learning.
Info.			Students will drive technology based pedagogical change. Budgets will require it. New technology will enable it.
Info.			Classrooms should be shielded for cell-phone use.
Info.			Desktops should be wired for laptops.
Info.			Some large lecture halls on campus have difficult ingress/egress conditions; multiple access points prohibit ticketed evening events.
Info.			Flexible seating allows faculty reconfiguration of classrooms – i.e. tables which pivot at one end can be rotated, but still have hard wired connectivity.
Info.			Curriculum to be heard from faculty will be optimized for it; curriculum to be learned by rote will be optimized for it.
Info.			UCR is committed to providing some small class experience for lower division students. The issue is how to make the large class experience more intimate. Technology creates some opportunities – i.e. the "night before" question can be answered on-line.
Info.			Additional teaching scenarios are postulated: 1 hour per week with the star professor in a 350 seat multi-media format 1 hour per week with a TA or peer in a 40 student section 3 hours per week with 8 to 20 peers for collaborative learning or a 600 student lecture for 3 weeks, (2) 300 student lectures for 3 weeks, a 600 student lecture for the balance of the quarter.
All	12/04	2.3	It is agreed that since the need and infrastructure for a 600 student lecture hall probably does not exist, one should not be planned for CHASS 1.
Info.			There is fundamental disconnect between flexible classroom furniture and the high-speed internet access that's required for research across the curriculum. Only wired access is fast enough – raised floor is necessary where both flexibility and high-speed data are required.
	12/04	**3.0**	**Schedule**
All	1/08/02	3.1	3:00pm – 5:00pm – Instructional Space Committee Meeting No. 2
			End

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Meeting Minutes

Instructional Space Committee Meeting, Held at UCR CHASS, 3:00pm – 4:30pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Instructional Space Committee Meeting 2

MEETING DATE: Tuesday, January 8, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Tim Ralston, UCR C&PP
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- Nita Bullock, UCR C&PP
- ✓ Polly Brietkreuz, UCR C&PP
- Dan Johnson, UCR PD&C
- Ted Chiu, UCR PD&C
- ✓ Susan Carter, UCR CHASS, Economics
- Gary Scott, UCR CNAS, Chemistry
- ✓ Robert Hanneman, UCR CHASS, Sociology
- ✓ Carl Cranor, UCR Academic Senate
- ✓ Richard Sutch, UCR CHASS, Economics
- ✓ Chuck Rowley, UCR Comp. &Communications
- ✓ Elizabeth Bennet, UCR Registrar
- ✓ Sandi Evelyn-Veere, UCR CHASS
- Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

OLD BUSINESS:

Action req'd by	Date	Item #	Description
	12/04	**2.0**	**Instructional Space Needs**
C&PP	12/04	2.1	Since there will be 12,000 asf of general assignment classroom space in CHASS 1, whole campus needs for instructional space should be assessed. There currently exists no comprehensive analysis of future campus-wide need. *At the Instructional Space Committee Meeting 2 Campus & Physical Planning presented a detailed quantification of existing classroom space and utilization rates. The highest utilization rates are recorded in the smallest and largest classrooms.*
C&PP	12/04	2.2	The committee suggests that a baseline quantification, which correlates the student population, teaching loads, and number and sizes of classrooms, could at least yield straight-line projections to 2010, to begin a needs assessment.
All	12/04	2.3	It is agreed that since the need and infrastructure for a 600 student lecture hall probably does not exist, one should not be planned for CHASS 1. **End**

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	01/08	**2.0**	**Instructional Space Needs**
EHDD	01/08	2.4	Further investigation of the "learning emporium" is requested. It is noted that both Academic Senate approval and UCOP space categorization are in question. 100 FTE is a "best guess" for the size. This space might be appropriate for introductory math, computer science or lower division language classes.
Info.			There will continue to be a high utilization rate for 30 FTE classrooms for curricula that depend on traditional pedagogy like english composition and foreign languages. Students are the most flexible for these classes.
Info.			Limits on classroom utilization have tended to be faculty driven – i.e. a desire to not hold class early or late in the day.
Info.			At the undergraduate level 90% of all instruction occurs in classrooms. At the graduate level there is higher demand for seminar rooms since the groups are smaller.
EHDD C&PP	01/08	2.5	The CHASS Master Space Plan should be distributed to the programming consultant. *C&PP is sending this document to EHDD on disk.*
Info.			Think of table oriented rooms requiring power and connectivity for lap top use. Think of chair oriented rooms as supporting hand held devices (palm pilots) only, and not requiring power and connectivity.
Info.			Students and faculty prefer tables to tablet arms.
Info.			A 30 FTE classroom with a 4" raised-floor, 24" movable tables, and very high connectivity is a very powerful teaching space. Half of the less than 15 and 30 FTE classrooms should be equipped this way. Classrooms larger than this can not effectively use this level of flexibility. Don't preclude future retrofit of low-tech spaces to hi-tech.
Info.			Easily controlled daylight is crucial. Recommend door at rear of classroom with vision panel or sidelight to minimize interruptions.
Info.			Attention should be focused on undergraduate instructional space; graduate seminars always manage to squeeze in somewhere.
Info.			The computer cart model should be considered for providing access to curriculum specific software.
Info.			Classrooms < 80 should have tables and chairs. Classrooms > 80 should have fixed, tiered seating with folding tablet arms. **End**

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Meeting Minutes

Instructional Space Committee Meeting, Held at UCR CHASS, 3:00pm – 5:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Instructional Space Committee Meeting 3

MEETING DATE: Tuesday, January 22, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
- Nita Bullock, UCR C&PP
- ✓ Polly Brietkreuz, UCR C&PP
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- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

OLD BUSINESS:

Action req'd by	Date	Item #	Description
	12/04	**2.0**	**Instructional Space Needs**
C&PP	12/04	2.1	Since there will be 12,000 asf of general assignment classroom space in CHASS 1, whole campus need for instructional space should be assessed. There currently exists no comprehensive analysis of future campus-wide need. *At the Instructional Space Committee Meeting 2, Campus & Physical Planning presented a detailed quantification of existing classroom space and utilization rates. The highest utilization rates are recorded in the smallest and largest classrooms.*
C&PP	12/04	2.2	The committee suggests that a baseline quantification, which correlates the student population, teaching loads, and number and sizes of classrooms, could at least yield straight-line projections to 2010, to begin a needs assessment.
All	12/04	2.3	It is agreed that since the need and infrastructure for a 600 student lecture hall probably does not exist, one should not be planned for CHASS 1.
EHDD	01/08	2.4	Further investigation of the "learning emporium" is requested. It is noted that both Academic Senate approval and UCOP space categorization are in question. 100 FTE is a "best guess" for the size. This space might be appropriate for introductory math, computer science or lower division language classes.
EHDD C&PP	01/08	2.5	The CHASS Master Space Plan should be distributed to the programming consultant. *C&PP is sending this document to EHDD on disk.* **End**

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Interior Design
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NEW BUSINESS:

Action req'd by	Date	Item #	Description
	01/22	**2.0**	**Instructional Space Needs**
Info.			Due to the way the State accounts for classroom utilization based on contact hours, and since its function seems more like an open class lab than a classroom, programming a learning emporium in CHASS 1 carries the risk that it may reduce the amount of general assignment classroom space.
Info.			A contingency plan might be that a 120 seat emporium could be configured as 2 separate 60 seat "intelligent" classrooms, able to be joined together in the future.
Info.			Some self-directed learning can be done on-line, but some will always require human contact with fellow students, tutors and faculty.
Info.			This Committee feels the need to exhibit leadership by having CHASS 1 be the forcing function to start a campus-wide discussion about the "emporium" concept.
Info.			The Committee's opinion is that the vast majority of existing faculty would prefer to teach in the traditional liberal arts model of academic culture – i.e. small classes with lots of personal attention. The Committee feels that economics and changing student demographics demand another solution.
Info.			Drop-in spaces allow students to maximize their time on campus, by productively using the times between classes.
Info.			Academic activity zones can increase student retention by enhancing a sense of connection and engagement.
	01/22	**3.0**	**Making a better classroom**
Info.			Instructional space that has a professional, serious feel leads to more serious students. This notion applied to the "emporium" suggests that casual break areas within the active learning environment may dilute the seriousness of academic culture.
Info.			Many existing classrooms have a 2:3 aspect ratio with the teaching direction along the long axis. Teaching along the shorter axis creates a more intimate classroom.
Info.			More aisles and arced seating plans in larger auditorium style classrooms improve intimacy as well. They also can help minimize exam cheating by improving classroom surveillance. Rear projection booths also improve surveillance.
Info.			Classrooms in the round could increase intimacy, but would require a digital instruction station connected to a "scoreboard" type, center hung projection system.
Info.			A "fan" shaped auditorium with flexible and sound proof partitions could be used for large lectures and for smaller sessions.
Info.			80 seat flat floor classrooms need higher than normal ceilings for projection sight lines.
EHDD	01/22	3.1	Develop classroom sections that demonstrate appropriate ceiling heights.
	01/22	**4.0**	**TA's**
Info.			Most TAs' highest priority is their thesis; they like to be located near their departments, and hold office hours incidental to focusing on their own work.
Info			TA consulting space could be independent from their offices, especially since many of the TA's for the Interdisciplinary Programs will come from other departments.
Dean's Office	01/22	4.1	Develop a list of Interdisciplinary Programs that will confer advanced degrees, and which ones will/may become departments.

Info.	Economics has undergraduate peer mentoring offices that have become effective magnets for the department. C & PP confirms that the University differentiates between, and encourages providing space for TA's and for Graduate Students.
Info.	A Graduate Student "lounge" or social space could work as a hub for smaller consulting rooms.
Info.	TA proximity to administrative units or to faculty offices: Some graduate students will want to be near their faculty advisors; some TA's simply don't need adjacency to faculty, but would benefit more from adjacency to the administration, since many student questions are rules and regulations related.

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Meeting Minutes

Instructional Space Committee Meeting, Held at UCR CHASS, 3:00pm – 5:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Instructional Space Committee Meeting 3

MEETING DATE: Tuesday, January 22, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

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NEW BUSINESS:

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Info.	A Graduate Student "lounge" or social space could work as a hub for smaller consulting rooms.
Info.	TA proximity to administrative units or to faculty offices: Some graduate students will want to be near their faculty advisors; some TA's simply don't need adjacency to faculty, but would benefit more from adjacency to the administration, since many student questions are rules and regulations related.

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Meeting Minutes

Instructional Space Committee Meeting, Held at UCR CHASS, 3:00pm – 5:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Instructional Space Committee Meeting 4

MEETING DATE: Tuesday, January 29, 2002

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Gretchen Bolar, UCR AP &B
- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
- Nita Bullock, UCR C&PP
- ✓ Polly Breitkreuz, UCR C&PP
- Dan Johnson, UCR PD&C
- Ted Chiu, UCR PD&C
- ✓ Susan Carter, UCR CHASS, Economics
- Gary Scott, UCR CNAS, Chemistry
- ✓ Robert Hanneman, UCR CHASS, Sociology
- ✓ Carl Cranor, UCR Academic Senate
- ✓ Richard Sutch, UCR CHASS, Economics
- ✓ Chuck Rowley, UCR Comp. &Communications
- ✓ Elizabeth Bennet, UCR Registrar
- ✓ Sandi Evelyn-Veere, UCR CHASS
- Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- ✓ Donna Muller, EHDD

OLD BUSINESS:

Action req'd by	Date	Item #	Description
		2.0	**Instructional Space Needs**
C&PP	12/04	2.1	Since there will be 12,000 asf of general assignment classroom space in CHASS 1, whole campus need for instructional space should be assessed. There currently exists no comprehensive analysis of future campus-wide need. *At the Instructional Space Committee Meeting 2, Campus & Physical Planning presented a detailed quantification of existing classroom space and utilization rates. The highest utilization rates are recorded in the smallest and largest classrooms.*
C&PP	12/04	2.2	The committee suggests that a baseline quantification, which correlates the student population, teaching loads, and number and sizes of classrooms, could at least yield straight-line projections to 2010, to begin a needs assessment.
All	12/04	2.3	It is agreed that since the need and infrastructure for a 600 student lecture hall probably does not exist, one should not be planned for CHASS 1.
EHDD	01/08	2.4	Further investigation of the "learning emporium" is requested. It is noted that both Academic Senate approval and UCOP space categorization are in question. 100 FTE is a "best guess" for the size. This space might be appropriate for introductory math, computer science or lower division language classes.
EHDD C&PP	01/08	2.5	The CHASS Master Space Plan should be distributed to the programming consultant. *C&PP is sending this document to EHDD on disk.*
		3.0	**Making a better classroom**

EHDD	01/22	3.1	Develop classroom sections that demonstrate appropriate ceiling heights.
		4.0	**TA's**
Dean's Office	01/22	4.1	Develop a list of Interdisciplinary Programs that will confer advanced degrees, and which ones will/may become departments. *The following list was received 1/29/02 at BC3.*

UG/Graduate Program Proposals

Department/Program	*Status*
Ethnic Studies	*MA program proposal submitted to the Dean*
Religious Studies	*Currently in planning – MA/Ph.D.*
Women's Studies	*Currently in planning – MA*
Southeast Asian	*Curriculum to develop as faculty are hired – Luce Grant includes support for two faculty hires (one senior hire, department unspecified, and a second junior hire in Comp Lit & For Lang) to be in place July 2002.*
Asian Pacific Americans	
Chicano Art & Social Action	*currently in planning – undergraduate program*
Native American Studies	*currently in planning – MA/Ph.D.*
Film & Visual Culture	
Latin American Studies	
Performance & Visuality	*currently in planning – MFA/MA/Ph.D.*

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	01/29	**2.0**	**Instructional Space Needs**
Info.			Vice Chancellor Bolar reiterates the difference between the 12,000 asf general assignment classroom space and the 8,000 asf class lab space programmed for CHASS 1. Classrooms must support regularly scheduled classes with a primary instructor, in order to be defensible on the basis of utilization and contact hours. The "learning emporium" type of space better fits the class lab space category.
Instruct. Space Com.	01/29	2.6	Vice Chancellor Bolar states that the Dean has been consulted about using some portion of the programmed class lab space for the "learning emporium" and agrees that the Instructional Space Committee should consult the Building Committee to see if any of the 8,000 asf could be used that way.

Info.			Polly Brietkreuz confirms that CPEC guidelines limit classroom space to a range of 8 – 30 asf per student.
	01/29	**3.0**	**Making a better classroom**
Info.			Standardized AV equipment for each classroom allows the instructors to learn how to operate the equipment.
Info.			An 80 seat technology enabled classroom with movable furniture could be a dual use space – classroom during the day, and open computer lab at night, if appropriate classroom support was co-located.
Info.			The committee agrees that 80 seats is optimum for built-in information technology. Built-in technology infrastructure is overkill for 30 seat rooms where a computer cart would suffice, and cannot be adequately utilized in a room that seats over 80.
			End

The above represents the author's understanding of the significant discussions during the referenced meeting. Additions or corrections to the minutes should be brought to the attention of the author no later than the next successive meeting. Where information subsequent to the meeting is added to the notes, this information will be indicated {italicized}.

8.3 FOCUS GROUP MEETING MINUTES & QUESTIONNAIRE

Meeting Minutes

Focus Group Meeting, Held at UCR CHASS, 1:00pm – 5:00pm

PROJECT: UC Riverside, CHASS Building 1 Detailed Project Program
EHDD 1036

MEETING #: Focus Group Meeting 1

MEETING DATE: Thursday, December 13, 2001

DISTRIBUTION: (✓*indicates attendance at meeting*)

- ✓ Tim Ralston, UCR C&PP
- ✓ Tony Cook, UCR C&PP
- Nita Bullock, UCR C&PP
- ✓ Polly Brietkreuz, UCR C&PP
- Dan Johnson, UCR PD&C
- Ted Chiu, UCR PD&C
- ✓ Armando Navarro, UCR CHASS, Eth St, Chair
- ✓ Edward Chang, UCR CHASS, Eth St
- ✓ Theda Shapiro, UCR CHASS, Co Lit, IP Chair
- ✓ Rebecca Kugel, UCR CHASS, History
- ✓ Wendy Ashmore, UCR CHASS, Anthro
- ✓ Deborah Wong, UCR CHASS, Music
- ✓ Sandi Evelyn-Veere, UCR CHASS
- ✓ Chuck Davis, EHDD
- ✓ Tom Heffernan, EHDD (author)
- Donna Muller, EHDD

NEW BUSINESS:

Action req'd by	Date	Item #	Description
	12/13	**1.0**	**Introductions**
	12/13	**2.0**	**Discussion**
Info.	12/13	2.1	Agreement that having all of each department's or unit's faculty on one floor is desirable.
Info.	12/13	2.2	Flexibility in classroom furniture arrangement is most important. Many lower division classes have only 60 – 80 students, and many upper division classes have only 40 – 50. Movable furniture allowing students to form groups, or to facilitate performance is required. Even in large lecture halls, seating could be tiered, but not fixed.
Info.	12/13	2.3	Almost all classrooms are being equipped with state of the art AV including video projection, DVD, computer, VCR etc. Many classrooms have lockable AV cabinets.
Info.	12/13	2.4	CHASS has a fully equipped AV/Media cart for visiting lecturers and rooms not equipped as described above. Any new building would need a secure storage space.

Info.	12/13	2.5	All classrooms need a podium/lectern. Many faculty circulate through the seating areas to maximize student engagement so circulation aisles that enable good instructor circulation are encouraged – i.e. center aisles instead of continental aisles. Clear sight lines from all student seats are essential.
Info.	12/13	2.6	Classrooms most in demand are those in the 30 – 80 student range. Teaching is being adjusted to this range for lower, upper and graduate courses. 80 students is considered the maximum number for personal 1 on 1 connection between instructor and student.
Info.	12/13	2.7	As the Ethnic Studies Department moves towards graduate programs there is increasing need for 30 seat, AV equipped seminar rooms (like HSS 1300). These same rooms would be useful for faculty meetings.
Info.	12/13	2.8	In response to the Focus Group Questionnaire, it is noted that the number of conference, seminar and scholarly activity rooms is determined not by the number of total faculty in the building, but by the number of programs or departments. There are common times when these spaces are needed – lunchtime for presentations, afternoon for seminars – their assignment should be by unit.
Info.	12/13	2.9	Casual waiting areas like the corridor alcoves in HSS are best located where students congregate and wait – near TA offices. For these spaces to work, students need a purpose for being there. They are less successful when they adjoin stairways, elevators or passageways. Spaces that can't be claimed by a group are less successful.
Info.	12/13	2.10	For large conferences (200 attendees) smaller, nearby conference rooms are useful for 30 person breakout sessions.
Info.	12/13	2.11	The smaller interdisciplinary programs' students are often overwhelmed by Liberal Studies, and don't feel an identity or cohesiveness. A "home office" would help shape an identity for these programs and their students.
EHDD C&PP	12/13	2.12	EHDD should meet with the student directors during the programming phase.
Info.	12/13	2.13	Some departments like Ethnic and Women's' Studies have close ties with student organizations, and would like space to host their activities.
Info.	12/13	2.14	All faculty offices, conference rooms and seminar rooms should have windows. Only media rooms can be windowless.
Info.	12/13	2.15	TA offices might be used more effectively if so many grad students didn't share them. It was agreed that 3 was the maximum number of TA's per office.
Info.	12/13	2.16	The interdisciplinary programs would benefit from having a home, a multi-purpose space that's identified with each program, as opposed to a row of faculty offices. This space would be for meetings, support staff, identity, mail, books, and seminars.
Info.	12/13	2.17	It was agreed that a central campus building location would best facilitate faculty/student interaction
EHDD C&PP	12/13	2.18	The media library in HSS is completely saturated. It could be expanded in CHASS 1. Note that this facility serves the entire campus, not just the college.
Info.	12/13	2.19	The Center for Asian Pacific American Studies is currently a faculty research center only; there is no teaching component. Faculty research centers are meant to exist across/outside departmental lines. Meeting space for faculty colloquia is needed, but faculty offices would most likely remain with the members respective departments.

Info.	12/13	2.20	Performance and Visuality is anticipated to be an interdisciplinary Ph.D. program. Eventually it will have the same administrative space needs as a department – MSO, support staff, TA offices, etc. This program would benefit from a small (80 person) gathering and performance space, like a café.
Info.	12/13	2.21	There is the most competition for performance and technical space in the new Arts Building, although there is high demand for all shared space in the building. The more scarce this space is, the more unrealistic it is to share it across departmental or program lines.
Info.	12/13	2.22	It is agreed that the spaces where real incidental faculty interaction occurs are the spaces for “down time”, like lounges and break rooms.
			End

The above represents the author's understanding of the significant discussions during the referenced meeting. Additions or corrections to the minutes should be brought to the attention of the author no later than the next successive meeting. Where information subsequent to the meeting is added to the notes, this information will be indicated {italicized}.

UC Riverside
College of Humanities Arts and Social Sciences – CHASS Building 1

Focus Group Questionnaire

Date: _____.

Unit or program name: _____.

Contact person: _____.

e-mail: _____.

1. Program Function and Relationships:

- Describe the functional dynamics of this program:

- Describe your hours of operation:

- Would you categorize your "after hours" security needs as high, medium or low? Are there any special security needs?

- Which other Departments and Programs does your group most frequently interface and why? How often? In what numbers?

- What outside groups, students, administration, etc. do you interact with? How often? In what numbers?

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- Describe your current situation – its location, adjacencies, good points and bad.

- Do you have any foreseeable concerns that may emerge from the consolidation of many programs in CHASS 1?

- Prioritize adjacencies with other groups, which would best benefit your work, as high, medium or low.

- Are there any required separations?

- What is the nature of interaction within this department? Person to person meetings? Scheduled or unscheduled? Average size of the meetings? Email? Frequency of interaction?

- How do you get your mail? How do you want to? Who receives, processes and distributes your mail?

- Does your program have any special requirements like service access for deliveries or for large groups of visitors?

2. Staff Count and Growth Projections:

- How many administrators, consultants, volunteers, visitors, students, or other non-faculty personnel are provided seats/workstations within your department (please list names and job description)?

- Are any of the non-faculty personnel seasonal? Project based? i.e. is there a pattern to the number of this type of worker in the department?

3. **Conferencing:**

- To what extent are meeting rooms used? If the new facility housed approximately 75 people per floor what would be the number of conference rooms provided? What size conference rooms are used at what percent frequency? Meetings of 4 to 6, 8 to 10, 12 to 14 or larger?

- Do you need less formal meeting spaces: impromptu meetings, chalk talks, layout areas?

- Does your group envision incorporating information technology and audiovisual capability in its meeting spaces? How, and to what extent?

4. **Research space:**

- Does your program have any particular research lab, computer lab, performance space or media lab requirements?

5. **Class Lab Space:**

- Does your program have any particular class lab, computer class lab, student performance space or media class lab requirements?

6. **IT:**

- Does your unit have special information technology needs? Server rooms, MIS personnel?

7. **Auxiliary and Support Areas:**

- Other than the conference rooms noted above, what other type of special rooms or areas does your group currently have or envision? Libraries, collections, display space? If the room or area requires special equipment, please list it.

- To what extent can storage on the floor be centralized? To what extent does it need to be distributed? If it is distributed, does it go in circulation areas, in team areas?

- Also, if particular storage can be archived, please indicate (assuming a reliable archival system was implemented). Please include group files, bookcases, storage shelving, and other equipment/storage requirements. These may, for example, be located in the following areas:

  File rooms or areas
  Storage rooms or areas
  Library or similar
  Resource rooms
  Computer rooms

8. Shared Equipment:

- What shared equipment does your unit use (not personal equipment in workstations but the equipment which is shared by the faculty). This category may include the following items:

  Copiers
  Fax Machines
  Shared Computers
  Printers
  Scanners
  Refrigerators, coffee machines
  Other Equipment

9. Additional Comments:

- Any thing not covered you would like to add?

8.4 BUILDING COMPONENT SUMMARY BACK UP

CHASS Instruction & Research Facility	Project Number :	E3442502
UCR	Date :	23-Oct-2003
	Budget Year :	
	CCCI of Budget Year :	

COMPONENENT BUDGETS	Quantity	Unit	Unit rate	Total
1.0 FOUNDATIONS				
Reinforced concrete spread footings at grade level	33,000	SF	16.00	528,000
Elevator pits	2	EA	7,000.00	14,000
Slab depressions and thickening	1	LS	22,000.00	22,000
Perforated Drain	100	LF	20.00	2,000
Sub-total Foundations				**566,000**
2.0 VERTICAL STRUCTURE				
12" Retaining wall	1,200	SF	27.08	32,496
Structural Steel vertical framing	565	Tons	2,000.00	1,130,000
Fireproofing	565	Tons	300.00	169,500
Sub-total Vertical Structure				**1,331,996**
3.0 FLOOR AND ROOF STRUCTURES				
Reinforced concrete 6" slab on grade (Ground floor)	33,000	SF	6.36	210,000
Steps in slab on grade Large	900	LF	50.00	45,000
Small	170	LF	30.00	5,100
Horizotal structural steel framing	500	Tons	2,000.00	1,000,000
Fireproofing	500	Tons	300.00	150,000
Metal deck and concrete topping	118,000	SF	6.60	778,800
Housekeeping / equipment pads, etc	1	LS	9,100.00	9,100
Premium for ramps	1	LS	20,000.00	20,000
Miscellaneous metal	110,000	SF	0.90	99,000
Sub-total Floor and Roof Structures				**2,317,000**
4.0 EXTERIOR CLADDING				
Brick veneer with metal studs and drywll	70,000	SF	28.00	1,960,000
Curtain Walling	4,250	SF	60.00	255,000
Column Enclosures	500	SF	38.00	19,000
Punch out windows	10,000	SF	54.55	545,455
Exterior doors, frame and hardware	1	LS	74,695.00	74,695
Louvers, vents and screens	1	LS	20,000.00	20,000

COMPONENENT BUDGETS	Quantity	Unit	Unit rate	Total
Soffit cladding	35,000	SF	15.00	525,000
Caulking and sealants	73,000	SF	0.45	32,850
Balustrade	1,400	LF	175.00	245,000
Canopies at main entrance	1	EA	20,000.00	20,000
Allowance for sun shades to exposed elevations	300	LF	100.00	30,000
Expansion joints	1	LS	20,000.00	20,000
Sub-total Exterior Cladding				**3,747,000**
5.0 ROOFING AND WATERPROOFING				
Roofing				
4 Ply built up roofing including tapered insulation and acrylic top coating to flat roofs	40,000	SF	10.00	400,000
Flashings at abutments, edges etc.	2,500	LF	9.00	22,500
Miscellaneous sheet metal	1	LS	30,000.00	30,000
Parapets /Screen walling	3,500	SF	35.00	122,500
Waterproofing				
Elevator pits	2	EA	1,200.00	2,400
Retaining Walls	1,200	SF	4.50	5,400
Equipment support	1	LS	25,000.00	25,000
Walkway pads etc.	1	LS	27,200.00	27,200
Caulking and sealants	1	LS	30,000.00	30,000
Sub-total Roofing and Waterproofing				**665,000**
SHELL (1-5)				***8,626,996***
6.0 INTERIOR PARTITIONS, DOORS & GLAZING				
Metal stud partitions with painted gwb, sound insulation	109,300	SF	7.00	765,100
Furred columns	20,000	SF	4.00	80,000
O[erable glass partition	1	LS	15,000.00	15,000
Balustrades and railings	200	LF	285.00	57,000
Doors frames and Hardware				
Single	320	EA	1,250.00	400,000
Double	40	Ea	2,200.00	88,000
Special doors	1	LS	16,000.00	16,000
Special hardware	1	LS	25,900.00	25,900
Internal glazing	2,800	SF	35.00	98,000
Sub-total Interior Partitions, Doors & Glazing				**1,545,000**

COMPONENENT BUDGETS	Quantity	Unit	Unit rate	Total
7.0 FLOOR, WALL & CEILING FINISHES				
Floor finishes				
Carpet to floor	84,000	SF	3.00	252,000
VCT	20,000	SF	2.50	50,000
Sealed and painted concrete	8,000	SF	1.64	13,091
Wood flooring	700	SF	15.00	10,500
Creatseal	20,000	SF	0.90	18,000
Waterproofing to ext walkways	10,000	SF	6.00	60,000
Trim and accessories	1	LS	10,000.00	10,000
Resilient base	20,000	LF	1.50	30,000
Wall finishes				
Painted gypsum board / skim coat plaster	250,000	SF	0.60	150,000
Ceramic tile	1,250	SF	10.91	13,636
Special wall finishes	1	LS	8,000.00	8,000
Acoustic Fabric panels	1,500	SF	12.00	18,000
Ceiling finishes				
Acoustical ceiling panels	85,000	SF	3.15	267,750
Acoustic quilt to ceilings	5,000	SF	2.00	10,000
Gypsum board painted	12,000	SF	7.27	87,273
Allowance for bulkheads and downstands	1	LS	27,750.00	27,750
Sub-total Floor, Wall & Ceiling Finishes				**1,026,000**
INTERIORS (6-7)				***2,571,000***
8.0 FUNCTION EQUIPMENT AND SPECIALTIES				
Toilet accessories				
Toilet compartments	30	EA	1,200.00	36,000
Urinal screens	8	EA	400.00	3,200
Toilet tissue dispensers	32	EA	50.00	1,600
Toilet seat cover dispenser	32	EA	100.00	3,200

COMPONENENT BUDGETS	**Quantity**	**Unit**	**Unit rate**	**Total**
Handicap grab bars	12	EA	120.00	1,440
Feminie Napkin Dispenser	5	EA	500.00	2,500
Feminine Napkin Disposal	5	EA	100.00	500
Soap dispenser	11	EA	110.00	1,210
Combination paper towel dispenser and disposal	11	EA	500.00	5,500
Mirrors	11	EA	400.00	4,400
Miscellaneous toilet accessories	1	LS	9,950.00	9,950
Specialties				
Building specialties	110,000	SF	0.50	55,000
Miscellaneous carpentry	110,000	SF	0.30	33,000
Equipment				
General allowance for projection screens and sundry items of equipment	1	LS	85,000.00	85,000
Marker boards	400	LF	70.00	28,000
Window Shades/blinds	8,000	SF	6.00	48,000
Book stacks	65	LF	250.00	16,250
Compact storage	1	LS	35,000.00	35,000
Millwork	1	LS	68,000.00	68,000
Display cabinets	90	LF	300.00	27,000
Upper cabinets	100	LF	185.00	18,500
Base cabinets	475	LF	300.00	142,500
Shelving	250	LF	65.00	16,250
Sub-total Function Equipment and Specialties				**642,000**
9.0 STAIRS & VERTICAL TRANSPORTATION				
Four stop passenger elevator	2	EA	108,000.00	216,000
Freight elevator 4Stop	1	EA	125,000.00	125,000
Disabled lift	2	EA	18,000.00	36,000
General exit stairs, metal pan with concrete fill	8	FLT	12,000.00	96,000
feature stair	1	LS	83,000.00	83,000
Sub-total Stairs & Vertical Transportation				**556,000**
EQUIPMENT AND VERTICAL TRANSPORTATION (8-9)				***1,198,000***

COMPONENENT BUDGETS	Quantity	Unit	Unit rate	Total
10.0 PLUMBING SYSTEMS				
Fixtures, hot water/ storage, sanitary waste / vent, domestic service pipework, and natural gas distribution	110000	SF	4.09	449,900
Sub-total Plumbing Systems				**449,900**
11.0 HEATING, VENTILATING AND AIR-CONDITIONING				
Chilled water;				
Incoming chilled water within building	1	LS	10,000.00	10,000
Chilled water equipment, pumps etc	1	LS	25,000.00	25,000
Chilled water distribution	110000	SF	2.00	220,000
Heating;				
Incoming steam within building	1	LS	10,000.00	10,000
Steam exchanger,pumps etc	1	LS	45,000.00	45,000
Hot water heating distribution	110000	SF	2.75	302,500
Zone heating	1	LS	30,000.00	30,000
Balance and testing	1	LS	15,000.00	15,000
Ventilation;				
Air handling units 150,000 total cfm	3	EA	245,000.00	735,000
Packaged units associated with Telephone / Computer r	1	LS	35,000.00	35,000
Terminal zone valves	1	LS	140,000.00	140,000
Terminal diffuser grills	1200	EA	150.00	180,000
Motorized dampers	1	LS	40,000.00	40,000
Ductwork distribution	1	LS	450,000.00	450,000
General exhaust system	1	LS	20,000.00	20,000
Balance and testing	1	LS	22,000.00	22,000
Documentation / Manuals	1	LS	5,500.00	5,500
DDC Control	1	LS	441,000.00	441,000
Sub-total Heating, Ventilating and Air-Conditioning				**2,726,000**

COMPONENENT BUDGETS	**Quantity**	**Unit**	**Unit rate**	**Total**
12.0 ELECTRIC LIGHTING, POWER & COMMUNICATIONS				
Distribution				
25KV sectionalising switch	1	EA	30,000.00	30,000
Main switchboard 480/277V breakers,feeder	1	EA	140,000.00	140,000
480/277V distribution panels	4	EA	30,000.00	120,000
480/277V panelboards	12	EA	6,000.00	72,000
Transformers	1	LS	75,000.00	75,000
208/120V distribution panels	5	EA	15,000.00	75,000
208/120V panelboards	20	EA	5,500.00	110,000
Grounding	110000	SF	0.20	22,000
Motor wiring, connections	110000	SF	0.65	71,500
Misc. equipment connections	110000	SF	0.50	55,000
Sub-total Electrical Distribution				**770,500**
Lighting and Devices				
Fluorescent light fixtures	1900	EA	240.00	456,000
Supplemental light fixtures	300	EA	250.00	75,000
Emergency Egress lighting	50	EA	200.00	10,000
Lighting wiring	110000	SF	1.50	165,000
Lighting controls	110000	SF	0.75	82,500
Dimming system	1	LS	24,400.00	24,400
Lighting pipe grid	330	LF	40.00	13,200
Theatrical lighting fixtures	40	EA	1,000.00	40,000
Convenience power	1150	EA	150.00	172,500
Connect projection screens	23	EA	453.00	10,419
Projector outlets	23	EA	150.00	3,450
Floor power boxes	64	EA	350.00	22,400
Sub-total Electrical Lighting and Devices				**1,074,869**
Special Systems				
Fire alarm	110000	SF	1.65	181,500
Security empty conduit system	110000	SF	0.20	22,000
Telephne data system incl cabling	1000	EA	425.00	425,000
Telephone data backbone cabling	110000	SF	1.35	148,500
Telephone data racks , termination equipment	900	EA	155.00	139,500
Hubs and Routers	1	LS	50,000.00	50,000
Misc. equipment connections	110000	SF	0.35	38,500

COMPONENENT BUDGETS	**Quantity**	**Unit**	**Unit rate**	**Total**
Cable tray	1000	LF	35.00	35,000
Cable management system for comm. cables in raised fl	48	EA	530.00	25,440
Emergency telephones	5	EA	1,500.00	7,500
Cable TV outlets	20	EA	350.00	7,000
Floor data outlets	48	EA	650.00	31,200
Speech reinforced systems	2	EA	10,000.00	20,000
IT system in Multi media room	1	Allow	45,000.00	45,000
A/Vsystems empty conduit	110,000	SF	0.35	38,500
Sub-total Electrical Special Systems				**1,214,640**
Sub-total Electric Lighting, Power & Communications				***3,060,009***

13.0 FIRE PROTECTION SYSTEMS

Automatic wet sprinkler system		95,000	SF	3.00	285,000
Automatic wet sprinkler system	Covered area	16,000	SF	2.82	45,120
Sub-total Fire Protection Systems					**330,120**
MECHANICAL AND ELECTRICAL (10-13)					***6,566,029***

8.5 SITEWORK COMPONENT SUMMARY BACK UP

COMPONENT BUDGETS	**Quantity**	**Unit**	**Unit rate**	**Total**
14.0 SITE PREPARATION AND DEMOLITION				
Excavation				
Excavate to reduce levels over building footprint	100,000	SF	1.72	172,000
Site clearance	100,000	SF	0.65	65,000
Sub-total Site Preparation and Demolition				**237,000**
15.0 SITE PAVING, STRUCTURES & LANDSCAPING				
Vehicle Paving				
Service yard	3,300	SF	10.00	33,000
Pedestrian Paving				
Sidewalks	6,500	SF	5.00	32,500
Plaza pavers	250	SF	15.00	3,750
Site structures				
Retaining wall	170	LF	390.00	66,300
Stairs and steps	1	LS	70,000.00	70,000
Low seat wall	110	LF	130.00	14,300
Fencing	150	LF	150.00	22,500
Bicycle rack	1	LS	22,000.00	22,000
Site Furniture	1	LS	27,000.00	27,000
Dance Arbor	1	LS	75,000.00	75,000
Meditation court	1	LS	45,000.00	45,000
Native american Timeline	1	LS	44,750.00	44,750
Landscape and Irrigation				
Excavate to reducelevels	1,600	CY	13.00	20,800
Fine grading	50,000	SF	0.30	15,000
Topsoil	1,600	CY	26.00	41,600
Lawn	30,000	SF	3.00	90,000
Trees and shrubs	1	LS	90,000.00	90,000
Irrigation	30,000	SF	1.75	52,500
Tennis Courts				
Work to Boundary next courts	1	LS	50,000.00	50,000
Site drainage	1	LS	75,000.00	75,000
Sub-total Site paving, Structures & Landscaping				**891,000**

COMPONENT BUDGETS	**Quantity**	**Unit**	**Unit rate**	**Total**
16.0 UTILITIES ON SITE				
Mechanical				
Domestic Water / Fire:				
Point of Connection	2	EA	1,864.50	3,729
Relacate existing 6" water main	350	LF	64.00	22,400
Piping <=6" dia.	160	FT	72.32	11,571
Relacate existing 12" water main	165	FT	150.00	24,750
Fire main valve assembly	1	EA	7,458.00	7,458
Fire hydrant	1	EA	3,107.50	3,108
Sanitary Sewer:				
Point of Connection	1	EA	2,486.00	2,486
Piping <=6" dia.	220	FT	65.54	14,419
Manhole	1	LS	5,650.00	5,650
Storm Sewer:				
Point of Connection	1	EA	2,486.00	2,486
Piping <=6" dia.	220	FT	65.54	14,419
Catchbasin	1	LS	5,650.00	5,650
Chilled Water:				
Point of Connection	1	EA	4,972.00	4,972
Chilled water S & R (6" dia.) from utility connection	550	FT	129.95	71,473
Heating / Steam: (not applicable)				
Point of Connection	1	EA	4,972.00	4,972
Heating S & R (2" dia) ret. from utility connection	550	FT	79.10	43,505

CHASS Instruction & Research Facility	Project Number :	E34425-02
UCR	Date :	23-Oct-2002
	Budget Year :	
	CCCI of Budget Year:	

COMPONENT BUDGETS	Quantity	Unit	Unit rate	Total
Electrical				
Incoming primary duct bank stub to 5ft	220	LF	150.00	33,000
Incoming communications duct bank stub to 5ft	1	LS	140,000.00	140,000
Landscape lighting	1	ALLOW	30,000.00	30,000
Relocate duct banks	1	ALLOW	65,000.00	65,000
Sub-total Utilities on Site				**511,047**
SITE CONSTRUCTION (14-16)				***1,639,047***

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