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Campus redwood tree
This Study analyzes the potential development of student housing on the UC Santa Cruz campus.

The 2014-15 Campus Housing Study addresses the following goals and obligations of the University:

- Meet or exceed the Long Range Development Plan (LRDP) criteria for providing on-campus student housing by 2020.
- Assess the redevelopment of Kresge College, including 350 beds of existing housing.
- Assess the redevelopment of Family Student Housing (FSH), including 200 units of existing housing.
- Deliver projects within the financial parameter of the housing program and the campus
- Provide flexibility in the phasing of new student beds in conjunction with replacement or renovation of beds at Kresge College or FSH
- Meet and/or exceed the UC Sustainable Practices Policy and Climate Neutrality Initiative in the construction and operation of new facilities
- Be consistent with the campus legacy of environmentally sensitive design for building scale, massing, orientation, and site planning by fostering pedestrian and vehicular accessibility

The study area consists of approximately 113 acres west of Heller Drive and includes the existing Porter College, Kresge College, Family Student Housing and Child Care facilities, the Camper Park, and areas adjacent to the North Remote Lot. The study area was assessed for site suitability using criteria focused on proximity and relationship to existing facilities, general accessibility (vehicular, pedestrian and service and emergency access), topography, geology, proximity and capacity of utilities, compatibility with campus character, solar access, environmental factors such as habitats and significant landscape features, and LRDP considerations. Using these filters yielded six suitable sites (identified as sites A-F), consisting of approximately 38 total acres. Based on analysis and campus feedback, three sites were studied for development.

This study identifies housing options for new and redeveloped student beds while working within the parameters of the University’s program, schedule, and financial constraints.
The options include apartments for upper division undergraduate students, graduate students, families and families with children. Further described in Chapter 6, the options show diagrammatic layouts, circulation, parking, amenity distribution, and companion cost analysis for review.

The study analyzes multiple scenarios exploring development on Sites C and E, which were narrowed to three options: Knoll, Meadow and Forest. Based on analysis, campus feedback and input from the Planning Committee, the Forest Option is recommended as the preferred alternative as it best embodies the goals and planning principles identified in the study. The Forest Option offers the following opportunities:

- 500-600 new beds in apartment configurations on the northern portion of Site C
- 100 or more new and 350 redeveloped beds at Kresge College with academic space redevelopment
- Sites E (the existing FSH) and southern portions of Site C remain available for future development
- Invest in FSH facilities to re-purpose for upper division undergraduate and/or graduate beds. Relocate families off-campus, if feasible
- May require minor amendment to LRDP land use
- Childcare remains in its current location

The project was directed by the 2014-15 Campus Housing Study Planning Committee, supported by Campus Planning and Housing Staff and a consultant team with expertise in campus housing, landscape, civil engineering, and budget forecasting. Additional input was provided by stakeholders and other campus constituents. The process was facilitated through meetings and site tours. A significant outreach effort was made, using campus wide emails, a dedicated website, and two, multi-day on-campus workshops. For additional information on the Outreach effort, and outcome of the outreach effort, see Appendix B of this report. For a list of project participants, see the Appendix E of this report.

The recommended option includes a phased project with a targeted construction completion for the first phase of work in 2020.
The Forest Option is located at the northern portion of the study area (Site C) and includes Kresge College. This option represents apartment style housing entirely for undergraduate students and allows for the current FSH to be retained or re-purposed, and potentially keeps the existing Childcare Center. Parking includes approximately 48 spaces at the Kresge infill lot, with any remaining parking at West Remote lot. Kresge College can be redeveloped to provide additional beds.
2 PLANNING CONTEXT

GOALS & MISSION STATEMENT

The 2014-15 Campus Housing Study seeks to identify and define the specific programs, density of development, environmental issues, infrastructure improvements, and a phasing strategy for the construction of student housing at various locations on the west side in order to meet the campus’ obligation and program aspirations.

In response to the goals identified in the Executive Summary, the committee developed a mission statement early in the process to guide the planning effort:

“Work closely with a wide range of stakeholders to identify cost effective and attractive options for on-campus student housing that value net-zero sustainability goals and our sense of community.”

View towards Monterey Bay
The 2014-15 Campus Housing Study (Housing Study) addresses broad campus planning issues and examines a portion of the UC Santa Cruz campus to accommodate future expansion of campus student housing. The planning effort incorporated the planning principles articulated in the 2005 Long-Range Development Plan and the Physical Design Framework.

Charged by Campus Housing Committee Executive Vice Chancellor Galloway, the Housing Study Planning Committee began the planning process in October 2014, supported by a staff working group and consultant team, to direct the physical planning, engineering studies and evaluate potential building sites. The Housing Committee met over the course of the year to identify opportunities, discuss options, and evaluate sites to accommodate these future facilities.

The Housing Study examines potential sites for proposed upper division housing and explores renovation or redevelopment of existing facilities. A review of existing conditions and identification of core campus fabric infrastructure was included to determine where new development could be located, focusing on enlivening and creating vibrant outdoor environments with direct visual and physical connections to already functioning campus areas. Preliminary and detailed site analyses were captured and used during consultation and deliberations with faculty, students, and staff.

The planning process began with review of previous studies in order to better focus resources on examining suitable sites for new on-campus student housing. These previous planning efforts were re-examined to familiarize the Housing Committee with the identified opportunities and constraints in both the developed housing areas and the undeveloped land and to ascertain which sites were the best fit for the housing programs.

Three sites were evaluated and assigned a theoretical built capacity to meet the program goals based on scale and density that fits contextually with the existing built environment. The evaluation considered the landscape character and natural setting and was consistent with the planning principles that guide physical development on the campus.

Studies of environmental factors such as geology, hydrology, and geotechnical setting were performed on the most suitable sites to understand design or construction constraints or to identify specific conditions that might require construction cost premiums. Site density studies to examine physical adjacencies, circulation elements, and potential future development were important elements to consider for evaluating building sites.

Preliminary cost models were developed for several options of the building program, which also identified cost premiums for elements specific to each site. The cost models included relative off-site cost premiums (for additional circulation elements, extra infrastructure required, and parking options).

This Housing Study articulates the programs, planning principles and assumptions, and describes the analyses which influence the recommendation.
**Planning Study**

The 2014-15 Campus Housing Study Planning Committee met over the course of the academic year and provided updates to the Advisory Committee on Campus Planning and Stewardship. The outcome of the committee deliberations is a recommendation to pursue preliminary planning and design with the selected option in order to complete the initial housing development by fall 2020.

Preliminary planning will include initial design, with a goal of maximizing housing development in the undeveloped land for potential future projects. The initial project will be phased with new development first then redevelopment/rehabilitation following within two years.

**Stakeholder Outreach**

Stakeholder Engagement sessions were held to solicit direct feedback and inform the Campus Housing study. The facilitation process was designed specifically to provide stakeholders with the overall history of the project, where the University is currently in the process, as well as current and future opportunities to participate in the planning process.

Two different engagements were held with faculty, staff, and students (both undergraduate and graduate) over the course of two days in November 2014 and February 2015. Each engagement contained a series of exercises to help prioritize pieces of the planning process. The initial engagement in November focused on where new housing should be located within boundaries set for the Campus Housing Study area. It also helped the design and planning team better understand the day in the life of a student, what housing facilities/amenities they use as well as how often they use them. The February engagement placed a greater emphasis on the sighting of different types of housing for undergraduates, graduates, and students with families as well as the individual units themselves.

In addition to the on-site engagements, a website was setup to communicate the outcomes of the engagements and provide additional feedback to the process. Material from the sessions can be found in the appendix.

In addition to the campus-wide engagements, specific outreach efforts were directed to Kresge College and Family Student Housing. In March, a presentation and workshop with the Kresge community was facilitated during their World Café sessions, which described the planning process and elicited feedback from the students to incorporate into the final study.

In May, an informational session was held with current graduate students and Family Student Housing residents to discuss potential options for off campus housing. The open discussion focused on the options being explored and how these would affect residents.
Area of Study

The Housing Study area consists of approximately 113 acres on the campus reaching from the West Entrance to the North Remote Parking lot primarily to the west of Heller Drive. The area includes existing Family Student Housing and Child Care facilities, Porter College, Kresge College, the Camper Park and undeveloped areas west of Porter College.

The site is mixed with developed areas, grassland, and forest communities. It has a general south facing slope and includes about 300 foot elevation gain from the West Entrance to the North Remote Lot. Below grade, the configuration of the campus soils and geology is as rugged and varied as its visible surface. Karst features—ravines, sinkholes, and caverns—are readily apparent in a portion of the site which form a natural storm water system; schist is present in the lower portion of the study area. The dramatic combination of varying slope, soils, hydrology, and orientation supports a range of physical environments and plant communities that make the site unique.
1. Provide a variety of unit types with a range of square footage and distribution of shared amenities to appeal to different student needs.

2. Strengthen east-west pedestrian connections by minimizing elevation change and connecting to established routes. Strive for universal access.

3. Foster college community by knitting Porter College and Kresge College spaces together with new upper division apartments; encourage shared open space with existing apartment communities; extend Kresge street south into Site C; explore shared amenities, including a new food emporium / café to support apartment living.

4. Locate new apartments with convenient access to campus activities, academic cores, libraries and recreation.

5. Develop Family Student Housing apartments with children on flatter topography with level outdoor play areas and strong connections to open space. Locate Family Housing Apartments and Grad Student Apartments with convenient access to off-campus.

6. Limit visibility of parking lots from main circulation paths. Utilize car share options and consider undergraduate parking in remote location to minimize site disturbance.

7. Vehicular circulation should reinforce and service distinct communities and preserve meadow for recreation / open wildlife corridors / natural habitats where possible.

8. Acknowledge and work with prominent natural features of the site, including view corridors, native habitats, and varied topography.

9. Strive for ambitious sustainability goals, including net-zero.

10. Create phasing options to facilitate cost effectiveness and construction timelines.

11. Develop preliminary budget projections based on options that embody these planning principles.
The unit spectrum chart shows a wide range of unit types, from shared bedroom accommodations to family apartments. For the purposes of this Study, the planning project includes a program mix of Undergraduate Housing in 2 and 4-bedroom apartments and Graduate/Family Student housing in studios and 2-bedroom apartments. The spectrum chart documents the required Gross Square Footage per bed for each of these unit types.

Relative cost factors in variations cost per square foot for different unit types (i.e. studio vs. co-housing)

A combination of bed/unit types will meet the project budget if the sum of the cost indexes is equal to zero.
EXAMPLE: A COST BALANCED UNIT MIX

3 x

12 Single Beds
12 x (-0.1) = -1.2

2 x

2 Family Beds
2 x (0.6) = 1.2

OFF-SETTING RELATIVE COST

Gross square footage per bed of student housing grossing factor includes common amenity, shared, and circulation space
Consistent with the project goals, this study explores program options that include a variety of apartment unit types (see Unit Spectrum on the previous pages) and associated amenity and support space. The program summary on the following pages shows initial program assumptions based on market study findings and early feedback from stakeholders and planning committee members. Gross square footages for the unit types include assignable area – the net usable area for residential or shared residential community purposes – plus additional area required for circulation and building systems.

The initial program mix was developed to facilitate program siting, land use options, and density analysis (Floor-Area-Ratios, or FAR). As suitable sites and densities were identified, the program mixes were further refined to fit projected budget forecasts. Given the wide range of assignable and gross square footages for various unit types, the program described in the development options in Chapter 6 is an approximate number of beds and gross square footage required to meet the project goals.

<table>
<thead>
<tr>
<th>Preliminary Program Approach</th>
<th>Unit Type Description</th>
<th>New Beds</th>
<th>Redeveloped Beds</th>
<th>Total West Housing Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Campus Housing Phase 1</td>
<td>New Upper Division and Grad Beds Mix of Mostly 2 - 4 BR Apartments with Single Occupancy Rooms</td>
<td>436</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Campus Housing Phase 2</td>
<td>New Upper Division and Grad Beds Mix of Mostly 2 - 4 BR Apartments with Single Occupancy Rooms</td>
<td>436</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kresge College Redevelopment and New</td>
<td>Redevelop Existing Apartments and Suites (Currently 350 beds) Mix of Suites with Single and Double Occupancy Rooms</td>
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<td>350</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New College-Affiliated Beds* Mix of Apartments and Suites with Single Occupancy Rooms</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Family and Graduate Student Housing Redevelopment</td>
<td>Redevelop Existing Apartments (Currently 200 beds/ units)** Mix of 80 2BR and 120 Studio/1BR Units in Single and Double Occupancy Rooms</td>
<td></td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Future Housing Project at Location To Be Determined</td>
<td>Additional Beds</td>
<td>750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Future Bed Spaces Planned</td>
<td></td>
<td></td>
<td></td>
<td>1725</td>
</tr>
</tbody>
</table>
Preliminary Program Summary

*The options include variations in the actual number of unit types and amenities

<table>
<thead>
<tr>
<th>100 x</th>
<th>64 x</th>
<th>110 x</th>
<th>80 x</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 Single Beds</td>
<td>256 Single Beds</td>
<td>220 Single Beds</td>
<td>80 Family Beds</td>
</tr>
<tr>
<td>(100 units x 4 = 400 beds)</td>
<td>(64 units x 4 = 256 beds)</td>
<td>(110 units x 2 = 220 beds)</td>
<td>(80 units x 1 = 80 beds)</td>
</tr>
<tr>
<td>Unit Type: 4A4</td>
<td>Unit Type: 4H4</td>
<td>Unit Type: 2E2</td>
<td>Unit Type: 2I1</td>
</tr>
<tr>
<td>Relative Cost: -0.1</td>
<td>Relative Cost: -0.2</td>
<td>Relative Cost: 0.0</td>
<td>Relative Cost: 0.6</td>
</tr>
</tbody>
</table>

4A4 & 4H4- 360 & 320 GSF/BED
0E1- 410 GSF/BED 2A2- 400 GSF/BED

Undergraduate Housing - 875 New Beds
Family Housing - 80 Redeveloped Beds
Family/Grad Housing - 120 Redeveloped Beds
1,075 Beds

329,860 ASF
439,120 GSF
Potential Amenity and Support Spaces:

**Family Amenities:**
- Community Room: 1,200 SF
- Storage: 800 SF
- Laundry: 400 SF
- Mail Room: 150 SF
- Admin. Space: 350 SF
- Open Space/Community Garden: N/A

**Grad/Undergrad Amenities:**
- Residential Life Office: 150 SF/150 Students
- Laundry: 150 SF/Building
- Janitor Space: 40 SF/Floor
- Storage: 2,500 SF
- Elevator Lobby: 150 SF
- Multipurpose Room: 1,600 SF
- Food Emporium & Cafe: 6,000 SF
- Exercise Space: N/A
- Community Kitchen: 10 SF/Bed
- Living/Social Lounge: Total
- Meeting Rooms: N/A
- Study Lounge: N/A
- Outdoor Open Space: N/A

**Additional Program:**
- Admin. Offices: 15,000 SF
- Yard: 20,000 SF
- Child Care Center: 13,000 SF
4 SITE ANALYSIS

CONTEXT

The natural landscape is the formative, iconic element of the UC Santa Cruz campus. The physical planning approach balances the campus’ mission with thoughtful stewardship of its remarkable location. The 2005 LRDP Planning Principles are intended to protect the extraordinary features and unique physical character and quality of life for the campus. This Study, the process, and outcomes were all informed and guided by the 2005 LRDP Planning Principles.

Numerous development concepts were proposed and considered for the various sites. The concepts include a mix of housing units for specific cohorts.

Concepts for the initially identified sites were presented in workshops in the fall and winter and assessed according to criteria of planning, location, site capacity, environmental concerns, utilities services, access and constructibility. The outcomes from the workshops were presented to the committee, and feedback resulted in additional program refinement that provide opportunities for maximizing development within the projected cost envelope.

LRDP Planning Principles

- Sustainability
- Land Use Patterns
- Natural and Cultural Resources
- Access and Transportation
- Campus Life
- The Santa Cruz Community
On-Campus Housing

Nationwide, colleges and universities recognize the important role that student housing plays in meeting institutional goals and enhancing campus life. On many campuses, student housing and related facilities are used as strategic assets. In order to help achieve enrollment goals and address other priorities related to student recruitment and retention, the university can use housing facilities to develop a comprehensive campus community that raises and maintains student satisfaction.

UC Santa Cruz currently offers a mix of residence halls and apartments in 17 on-campus residential communities. Totaling nearly two million gross square feet of residential space, the facilities have a design capacity of over 6,700 beds and a functional capacity of nearly 8,400 beds due to the tripling of double occupancy units and the conversion of common space to residential space. The campus currently provides on-campus housing for approximately 50% of its students. Approximately 61% of the units are in a traditional residence hall configuration targeted towards first and second year students and 39% are apartments intended for upper division students.

Market Study

In March 2014, a student housing market study was developed to assess student housing demand and supply.

This housing market analysis prescribes a prudent market responsive set of recommendations for the University to follow to address the needs and desires of its undergraduate and graduate students.

The study involved both qualitative and quantitative research that included input from campus stakeholders, undergraduate, and graduate students, and meetings with key UC Santa Cruz administrators to understand the drivers and vision associated with on-campus housing at the University.

The study assessed the existing conditions with respect to the current student housing portfolio, student demographic composition, student enrollment trends, and real estate market conditions, and used these analyses to conduct a detailed market analysis. The results of the analysis are instrumental in framing issues that would affect demand for housing relative to key market characteristics.

The study included the following findings:

- First year and lower division housing should be centered on the existing college system.
Housing for first year and lower division students is currently sufficient to accommodate the educational and student life outcomes of the residential colleges. However, opportunities exist to de-densify current residence halls to allow for greater community spaces within the buildings.

The University should create housing specifically suited to upper division students with appropriate residential life programs that provide greater privacy and independence.

For additional information, please reference the full Market Study at http://mediafiles.ucsc.edu/ppc/studies/StudentHousingMarketStudy.pdf.

Chapter 4 - Site Analysis

Housing for first year and lower division students is currently sufficient to accommodate the educational and student life outcomes of the residential colleges. However, opportunities exist to de-densify current residence halls to allow for greater community spaces within the buildings.

The University should create housing specifically suited to upper division students with appropriate residential life programs that provide greater privacy and independence.

For additional information, please reference the full Market Study at http://mediafiles.ucsc.edu/ppc/studies/StudentHousingMarketStudy.pdf.
The UC Santa Cruz Physical Design Framework is a companion document to the UC Santa Cruz’s Long-Range Development Plan 2005–2020 (2005 LRDP), which was approved by The Regents in 2006. It chronicles the consistent vision of UC Santa Cruz as a vibrant institution in wonderfully complex and dynamic environmental settings and articulates the values that guide development at UC Santa Cruz. It looks simultaneously to the past and to the future, and emphasizes the continuity of UC Santa Cruz’s consistent approach to planning and campus development. More evocative than prescriptive, the Physical Design Framework encourages an approach of “structured improvisation” that allows the campus to make the most of all opportunities, anticipated or not.

The Physical Design Framework has been structured to convey an easily understood, yet comprehensive, vision of campus lands, and to propose a series of design guidelines intended to ensure that future area planning studies, building siting decisions, and building and infrastructure designs remain true to that vision. The physical character of the UC Santa Cruz main campus, with its rugged topography and complex natural systems, creates powerful settings for university life.

In all of these cases, the planning work includes close collaboration among campus clients, knowledgeable campus staff and skilled consultants. The results can inform both project design decisions and long-term management practices. Campus experience has taught that there is no substitute for frequent visits to project sites and close study of the unique characteristics of each, including their slope, terrain, vegetation, microclimate, solar exposure, and current use patterns.
EXISTING CONDITIONS & SITE FEATURES

The following diagrams are intended to illustrate the many site features that impact the building on the Campus Housing study area.

- Ecotones, Landmarks & Solar Access
- View Corridors
- Pedestrian Access & Connections
- View Corridors
- Parking & Vehicular Circulation
- Campus & Building Amenities
Ecotones, Landmarks & Solar Access

An analysis of existing open space highlights the available solar access in the meadow and existing FSH sites. These sites are free of overhead tree canopy and are optimal sites for active outdoor space or for harnessing solar energy. Areas in the forest canopy, which include the northern portion of the meadow (south of Kresge College), may have more limited solar access and will require careful study when siting buildings to ensure that solar access is maximized for shared open spaces.
**View Corridors**

Between Kresge College and the FSH sites, a number of prominent site features present opportunities for capturing and/or framing views of the iconic UC Santa Cruz landscape. The upper meadow sites have views of the intimate Kresge “Bowl” – home to the Kresge Garden – and the forest and ridges beyond. As one moves further south, the meadow opens up to provide unobstructed views of the Monterey Bay.
The diagram below shows how existing pedestrian pathways can extend and link to the study sites. New housing in the meadow and existing FSH should have access to campus activities, academic cores, libraries, recreation space, and transit stops.
Parking & Vehicular Circulation

Vehicular circulation should connect and service distinct communities and preserve the meadow for recreation, open wildlife corridors, and natural habitats where possible. Locations should reinforce existing paths and decrease vehicular/pedestrian interaction.
Existing commons at Kresge, Porter and College Eight provide shared amenities along major pedestrian circulation corridors, typically within a short walk from student residences. The longer distance between the Porter and Kresge commons indicate the potential for an additional food emporium or café-type amenity to support potential new residents in the upper meadow site. Building level amenities would need to be closer to residences, occur more frequently, and have access to pedestrian networks.
Site Analysis

Site A

This site presents one of the larger spaces characterized by slopes under 15%. From an accessibility standpoint; it is confronted with less constraints and benefits from an adjacent primary circulation artery. Further geologic study may be required. Development in this site may require pedestrian bridges or other infrastructure elements to connect to Kresge or academic core. Such development will place high importance on the existing natural corridors defined by the adjacent creeks.

Site B

This site presents an infill opportunity. At just over a half acre, this site could easily integrate new development with adjacent buildings and circulation networks. Already in a developed area at Kresge College, further development at this site will likely not impact campus wildlife corridors on campus. This site exhibits a small stand of redwoods that were preserved during the initial development of Kresge College. Their removal would alter the forested quality that currently characterizes Kresge College.

Site C

North
This site is separated from existing development by slopes up to 33% and is primarily undefined. There is a parking lot that would be duplicated. Vehicular and service access to this site presents a significant challenge and likely requires infrastructure development. Due to its proximity to existing development, future development at this site will not further fragment campus open space.

South
This site in the meadow is situated around known geological hazards. Because it is removed from existing campus circulation infrastructure, access will require road construction and associated utility expansion. Adjacent grades appear to allow for access to be provided from the north or south. If provided from the north, a tree health study should be commissioned to determine to what extent care should be taken to preserve trees in the existing oak ecotone. If provided from the south, further study will also be required to limit negative impact on the meadow ecosystem.

Development of this site will dramatically impact the meadow open space, confining the meadow ecosystem to the lower elevations. Additionally, viewed from the perspective of Porter and Kresge College, development of this site will detract from the campus goal of large sweeping views.
Site D

This site south of Porter College offers 3.67 acres in close proximity to existing circulation infrastructure and existing development. Due to its close proximity to the existing Family Student Housing (FSH) and potential to provide access to the FSH site independent of Heller Dr., this site may be a good staging location. Development of this site will impinge on one of the few lower campus, E-W corridors of open space, creating a string of development from the Family Student Housing campus to Porter College.

Site E

The existing FSH site presents the largest contiguous opportunity for housing development at 11.71 ac. It is characterized by moderate elevation gain across the site. In its developed state however, it offers some areas of level ground at the northern portion.

This site is already densely developed. Future redevelopment has the potential to improve the experience of campus open space and draw on the views to the north. This site offers excellent solar exposure, a high degree of layout flexibility, and views to the Pacific Ocean.

Site F

The site south of FSH offers ~3.17 AC of developable space roughly split between two benches of level grade. Accessible via Heller Dr., this site provides an ease of service and emergency access. It is situated atop a known geologic hazard. Development of this site will alter the experience of entering the campus from that of an open meadow experience with views of hilltop development, to that of the built environment leading the visitor into campus from the moment they turn onto Heller Drive.

The Porter Wave
Looking into Kresge "Bowl"
BUILDING BLOCKS

In developing the concept alternatives for the Housing Study, it is important to understand the basic building blocks of university campus housing, particularly as it pertains to UC Santa Cruz. The organization of these blocks is paramount to developing a successful living and learning environment that represents the ideals and vision of the University. These building blocks include:

- The Apartment Unit
- Apartment Buildings, including Amenity Spaces
- Neighborhoods, or clusters of Buildings, including parking and open space
- The Colleges and UC Santa Cruz

Units

The most basic need of any student housing project is also at the smallest end of the spatial requirement scale: a bed and desk. Generally uniform in size, a twin size bed (extra-long mattress), desk and some allowance for storage (dresser, closet, chest of drawers, etc.) will usually dictate the size and shape of a bedroom. Given that the Campus Housing market study has recommended apartments with single bedroom accommodations, organization within the bedrooms is fairly straightforward. A basic bedroom module of approximately 8’-9” x 13’-0 will provide adequate space for one occupant, plus required accessibility clearances.
Units

Undergraduate Housing
2 Bed - 1 Bath, 610 SF
Two bedrooms, each fit for twin bed, one bathroom, kitchen and dining area, and living room.

Undergraduate Housing
4 Bed - 1 Bath, 840 SF
Four bedrooms, each fit for twin bed, one bathroom, kitchen and dining area.

Undergraduate Housing
4 Bed - 2 Bath, 1,100 SF
Four bedrooms, each fit for twin bed, two bathrooms, kitchen/dining area, and living room.

When two or more bedrooms are grouped into an apartment setting, there are additional requirements for the provision of cooking and bathing facilities. These facilities may fall into a wide spectrum of sizes and accommodations. At a minimum, an apartment kitchenette must provide a cooking appliance (cooktop and/or microwave), sink, and refrigerator, with the appropriate accessibility clearances. However, such minimal accommodations may only be suitable for some student populations. Families and graduate students may require a full kitchen, including range/ovens and additional cabinet storage.
Bathrooms also present a range of accommodation: a standard bathroom with a tub/shower, water closet, and lavatory may satisfy a single occupant or family resident, but may present challenges to shared living situations. The Housing Study includes units that separate bathing compartments from water closets and lavatories to allow for concurrent use of facilities by different residents.

Consideration for living, dining and other ancillary spaces (storage, outdoor decks) may enhance the quality and desirability of an apartment unit. The Study explored unit layouts with a range of living rooms, combination living/dining rooms, and open floor plan concepts. For example, the most compact undergraduate apartments provide a small "L" shaped kitchenette with an adjacent space for a living room or dining room, but not both. The larger graduate student and family units include full kitchens with a dedicated living room and dining room.
Buildings

Student apartment units can be assembled in a variety of ways, depending on a desired circulation strategy, floor size, building height and distribution of amenity and support spaces. Internal, corridor circulation allows for a “double-loaded” organization with an efficient means of distributing utilities and other services. Interior corridors also promote interaction between residents and provide a protected (or optionally conditioned) space to move between apartment units, amenity spaces, and floors. Exterior access walkways limit the amount of conditioned space, but potentially require additional floor space and are generally not appropriate for construction over three stories. Walk-up apartments require minimal shared circulation, but may present accessibility challenges and do not encourage student interaction.

The undergraduate apartments may be planned as buildings with approximately 40 residents per floor. With upper division students, the ratio may be relaxed to allow for larger floors of up to 50 residents, or a distribution of RAs on alternate floors. At a range of 320 to 360 GSF per undergraduate bed, a potential building might include 40-bedroom floor plates between 12,800 and 14,400 GSF, which is allowable for 3-to-4-story buildings of wood or light-gauge steel framing construction types.

Although families and graduate students usually have lower amenity space requirements, larger apartments and access to open space are important needs. The ideal family student apartment includes direct access to an outdoor space, such as a patio or shared yard or play area where children can be easily supervised. The study evaluates a wide range of accommodations for these cohorts, from temporary units (flats) to townhouses (two-story walk-ups), each organized around a shared courtyard.
Based on program feedback from the Planning Committee and Engagement Sessions, the Housing study includes distinct amenity and support spaces such as Mail Facilities and Laundry rooms. An allowance for additional building and community features, such as study rooms, game rooms, and community kitchens, is included in the building gross square footage for each bed/unit type. A list of potential amenity spaces is included with the program summary, and a final program of amenities will be determined during the detailed programming phase for each individual building project.
In keeping with the scale and character the UC Santa Cruz built environment, the study includes concepts with building typologies of four stories above grade plane or less. Where challenging topography requires stepping of buildings, some shared core elements such as stairs and elevators are used to negotiate grade change. These shared core elements also allow for breaking up the apparent mass of the buildings by creating opportunities for outdoor (or glazed, indoor) links between building wings. The shorter building wings can then be offset or angled to reduce corridor length or as a response to topographic conditions.

Buildings are generally organized around open space, with building entrances and amenities readily visible to enhance way finding. On all concept alternatives, buildings are spaced a minimum of 40 feet apart (roughly the height of the building), providing similar solar access to all outdoor spaces. The minimum building spacing also permits unprotected openings (windows) in the buildings and allows for emergency vehicle access between and around the buildings.

Just as there is a variety of indoor spaces, outdoor rooms can vary from compact linear “streets”, such as those found in Kresge College, to larger plazas and formal open space like the Porter quad. The concept alternatives place buildings along these open spaces and connect to new or existing pedestrian circulation paths that link back to Porter College, Kresge College, and the rest of the campus community. Pedestrian circulation also addresses connections to existing dining and classroom facilities at Porter and Kresge, and transit stops along Heller Drive and Porter-Kresge Road.
Parking

In all planning scenarios, parking is accommodated at different ratios for each cohort group: one parking space for each family or graduate student, and one parking space for every five (5) upper division undergraduate students. The University is exploring options for car-sharing whereby the number of undergraduate parking spaces can be reduced such that there is a resulting car-share to student ratio of 1:30. Family or graduate student housing should be located proximate to the apartments. To the extent possible, undergraduate parking should also be located near the apartment buildings. However, where site topography makes proximate parking unfeasible, additional undergraduate parking can be accommodated at other locations. In all scenarios, a drop-off and turn-around area is desired near the primary entrance to buildings or groups of buildings.

Program Siting Options

*The options include variations in the actual number of unit types and amenities
Land Use Concept 1:
Development of Sites C1, C2 & E.

- **Undergraduates at Sites C1 & C2**
  - Site Area: Approx. 6.8 Acres (296,000 SF)
  - Required FAR: 0.84
  - Footprint at 4 Stories: 83,000 SF (28% Lot Coverage)
  - Footprint at 3 Stories: 110,783 SF (37% Lot Coverage)

- **Graduates & Family Housing at Site E**
  - Site Area: Approx. 11.71 Acres (510,000 SF)
  - Required FAR: 0.35
  - Footprint at 4 Stories: 36,150 SF (7% Lot Coverage)
  - Footprint at 3 Stories: 48,200 SF (9% Lot Coverage)
  - Footprint at 2 Stories: 72,200 SF (14% Lot Coverage)

- **Child Care on Site F**
  - Site Area: Approx. 1 Acre

Program Considerations:
- Required Undergraduate GSF: 330,430 / 875 Beds (378 GSF/Bed)
- Required Family/Student GSF: 144,440 / 200 Beds (722 GSF/Bed)
- Surface Parking SF: 320-380 SF/Stall (includes aisles and planting areas)
Land Use Concept 2:
Development of Sites C1, C2 & E.

Grad & Families at Sites C1 & C2
Site Area: Approx. 5.59 Acres (243,500 SF)
Required FAR: 0.60
Footprint at 4 Stories: 36,150 SF
(15% Lot Coverage)
Footprint at 3 Stories: 48,200 SF
(20% Lot Coverage)

Undergraduates at Site E
Site Area: Approx. 11.71 Acres (510,000 SF)
Required FAR: 0.65
Footprint at 4 Stories: 83,000 SF
(16% Lot Coverage)
Footprint at 3 Stories: 110,783 SF
(22% Lot Coverage)

Child Care on Site C
Site Area: Approx. 1 Acre (Opt: Child Care to Site F for reduced FAR on sites C1/C2 to 0.50).

Land Use Concept 3:
Development of Sites C1, C2, D & E.

Undergraduates at Sites C1, C2 & D,
Site Area: Approx. 10.26 Acres (447,000 SF)
Required FAR: 0.74
Footprint at 4 Stories: 83,000 SF
(19% Lot Coverage)
Footprint at 3 Stories: 110,783 SF
(25% Lot Coverage)

Graduates & Family Housing at Site E
Site Area: Approx. 10.71 Acres, (466,000 SF)
Required FAR: 0.31
Footprint at 4 Stories: 36,150 SF
(8% Lot Coverage)
Footprint at 3 Stories: 48,200 SF
(10% Lot Coverage)
Footprint at 2 Stories: 72,200 SF
(16% Lot Coverage)

Child Care on Site E
Site Area: Approx. 1 Acre (Opt: Child Care to Site F for reduced FAR on site E of 0.28).
6 DEVELOPMENT OPTIONS

OPTIONS

Developed in response to the initial land use studies and refined through the engagement workshop process and Planning Committee meetings, the development options presented in this study were analyzed relative to program, budget, and fulfillment of campus and committee goals. These options explore new development on the meadow site(s) and the current location of Family Student Housing. The Forest Option also includes redevelopment of Kresge College, as well as the opportunity for investment in Family Student Housing facilities.

The graphics presented on the following pages represent diagrams of the potential build-out condition for each option, exclusive of any phasing. While the plan diagrams represent only one possible configuration of approximate building locations, site paths, and emergency vehicle access, the footprints shown can accommodate the stated program for each option in a range of apartment unit types and in buildings of 3 to 4 stories; all options include new development in a range of 0.60 to 0.80 FAR. The diagrams are not intended to show a proposed project design, or project size, but instead inform preliminary budget forecasts and provide a basis for analysis and recommendation. Budget projections for each option include variations that limit bed counts to meet debt capacity.

McHenry Bridge
Knoll Program Distribution

- Undergraduate Apartments
- Family Student Apartments
- Grad/Family Apartments
- Parking
- Child Care Center
- Site Boundaries

288,800 GSF

UNDERGRADUATE APARTMENTS:
Approx. 440 Permanent Beds

FAMILY STUDENT HOUSING:
Approx. 80 Permanent Apartments

GRADUATE STUDENT HOUSING:
Approx. 120 Permanent Beds
The Knoll Option is at the southern end of the study area, where FSH is currently located (Site E). This option includes apartment style housing for undergraduate and graduate students, and incorporates the redevelopment of Family Student Housing and childcare. Car access is provided via Heller Drive and includes approximately 200 parking spaces.
Knoll-Max Program Distribution

- Undergraduate Apartments
- Parking
- Site Boundaries

299,200 GSF

UNDERGRADUATE APARTMENTS:
Approx. 980 Permanent Beds
Knoll-Max Option

The Knoll-Max Option is a variation of the Knoll Option that seeks to maximize the number of undergraduate beds. In this scenario, the Family Student Housing and Childcare Center is to be relocated off campus. Car access is provided via Heller Drive and includes approximately 200 parking spaces.
Meadow Program Distribution

- Undergraduate Apartments
- Family Student Apartments
- Grad/Family Apartments
- Child Care Center
- Parking
- Site Boundaries

321,680 GSF

KRESGE INFILL SITE: Relocated Parking

UNDERGRADUATE APARTMENTS:
Approx. 515 Temporary Beds
Approx. 860 Permanent Beds

FAMILY STUDENT HOUSING:
Approx. 80 Temporary Apartments
0 Permanent Apartments

GRADUATE STUDENT HOUSING:
Approx. 145 Temporary Beds
Approx. 120 Permanent Beds
Meadow Option

The Meadow Option is located at the northern end of the study area (Site C) and represents apartment style housing for undergraduate students, graduate students, and students with families. The option allows for the current FSH to be restored to native landscape, and utilizes the existing Childcare Center. Car access is provided from Heller Drive via a new road and includes approximately 160 parking spaces, as well as 48 parking spaces in the Kresge infill lot.
Meadow-Max Program Distribution

- Undergraduate Apartments
- Child Care Center
- Parking
- Site Boundaries

308,160 GSF

KRESGE INFILL SITE: Relocated Parking

UNDERGRADUATE APARTMENTS: Approx. 980 Permanent Beds
**Meadow-Max Option**

The Meadow-Max Option is a variation of the Meadow Option that seeks to maximize the number of undergraduate beds. The option allows for the current FSH to either be retained or restored to native landscape, and potentially keeps the existing Childcare Center. Car access is provided from Heller Drive via a new road and includes approximately 160 parking spaces, as well as 48 parking spaces in the Kresge infill lot.
Forest Program Distribution

- Undergraduate Apartments
- Childcare Center
- Parking
- Redevelop Kresge College

333,800 GSF

KRESGE INFILL SITE: Relocated Parking

KRESGE REDEVELOPMENT 350 Redeveloped Beds plus 100 New Beds

UNDERGRADUATE APARTMENTS: 500-600 Permanent Beds
The Forest Option is located at the northern portion of the study area (Site C) and includes Kresge College. This option represents apartment style housing entirely for undergraduate students and allows for the current FSH to be retained or re-purposed, and potentially keeps the existing Childcare Center. Parking includes approximately 48 spaces at the Kresge infill lot, with any remaining parking at West Remote lot. Kresge College can be redeveloped to provide additional beds.
APPENDICES

APPENDIX A

SITE ANALYSIS DIAGRAMS

- Slope Opportunity Identification 0%-15%
- LRDP Study Area
- Vegetation Analysis
- Infrastructure Analysis
- Campus Proximity Study
- Campus Circulation Study Sections
- Campus Activity Centers
- Existing Vehicle Circulation
- SCMTD Public Transit Circulation
- Day Shuttle Circulation Routes
- Existing Pedestrian Circulation
Slope Opportunity Identification 0%-15%

Potential Development Sites

A: ~9.59 AC
One of the larger sites with slopes under 15%.
Good accessibility. Adjacent to primary circulation artery.

B: ~0.57 AC
Infill opportunity. Easily integrated with existing Kesge circulation network.
*Site C1 and C2 represent initial boundaries. Adjusted site boundaries are represented in Chapter 4.

C1: ~1.40 AC
This site is separated from existing development by slopes up to 33%.
Vehicular service presents a challenge.

C2: ~3.68 AC
Site is situated over a known geologic hazard.
Access will require road construction and associated utility expansion.

D: ~3.67 AC
Proximate to existing circulation infrastructure.

E: ~11.71 AC
Largest contiguous opportunity for housing development.
Moderate elevation gain across the site.

F: ~3.17 AC
Site is situated over a known geologic hazard.
Access by Empire Grade as well as Heller Rd. provides an ease of service and emergency access.

Total, Sites A-F: ~33.79 AC
LRDP Study Area

Potential Development Sites

A: ~9.59 AC
Campus Student Housing

B: ~0.57 AC
Campus Student Housing

C1: ~1.40 AC
Primarily Campus Student Housing with some Campus Resource Land overlap. May require LRDP amendment.

C2: ~3.68 AC
Campus Resource Land Development requires LRDP amendment.

D: ~3.67 AC
Primarily Campus Student Housing with some Campus Resource Land overlap. May require LRDP amendment.

E: ~11.71 AC
Campus Student Housing

F: ~3.17 AC
Primarily Campus Student Housing with some Protected Landscape overlap. Buildings not permitted per LRDP.

Total, Sites A-F: ~33.79 AC

*Site C1 and C2 represent initial boundaries. Adjusted site boundaries are represented in Chapter 4.

Chapter 7 - Appendices

July 2015 UC SANTA CRUZ Student Housing West
Vegetation Analysis

Potential Development Sites

A: ~9.59 AC
This site is characterized by a dense stand of dwarf redwood and mixed chaparral forest.

B: ~0.57 AC
This site exhibits a small stand of redwoods that were preserved during the initial development of Kresge College.

*Site C1 and C2 represent initial boundaries. Adjusted site boundaries are represented in Chapter 4.

C1: ~1.40 AC
This site is situated almost entirely in Porter Meadow and has good solar exposure.

C2: ~3.68 AC
This site is situated entirely in the Porter Meadow grassland. It offers excellent solar access and but overlaps a known zone of endangered beetle habitat.

D: ~3.67 AC
This site south of Porter College is situated entirely in Porter Meadow grassland. It offers excellent solar access.

E: ~11.71 AC
The existing FSH site exhibits primarily ornamental species of a wide variety.

F: ~3.17 AC
The site south of FSH is situated entirely in grassland. It offers excellent solar exposure.
Infrastructure Analysis

Site C1 and C2 represent initial boundaries. Adjusted site boundaries are represented in Chapter 4.

Potential Development Sites

A: ~9.59 AC
Site is proximate to all utilities. Existing sewer may need upgrade. Flat slopes will allow for ease of passive stormwater management.

B: ~0.57 AC
Site is proximate to all utilities. Opportunity to provide rainwater harvesting to serve adjacent development.

C1: ~1.40 AC
Site is proximate to all utilities. May require pumping of sewer for integration into campus system.

C2: ~3.68 AC
Site is the most disconnected from existing campus infrastructure. Sewer may require a lift station to connect to main in Heller Rd or a new connection may be made out to Empire Grade.

D: ~3.67 AC
Site is proximate to all utilities.

E: ~11.71 AC
Previously developed site presently served by all utilities. Telecom may require expansion across site. Better on-site stormwater management will help alleviate downstream erosion.

F: ~3.17 AC
Site is proximate to all utilities except telecom and electric.

Legend:
- STUDY AREA
- POTENTIAL DEVELOPMENT SITES
- SANITARY SEWER
- FRICTIONAL
- TELECOM LINES
- WATER PIPE
- GAS

July 2015 UC SANTA CRUZ Student Housing West

Chapter 7 - Appendices
The following diagram indicates the pedestrian pathways from the centers of the sites to the McHenry Library.

*Site C1 and C2 represent initial boundaries. Adjusted site boundaries are represented in Chapter 4.*
Campus Circulation Study Sections

The following sections indicate the topography and distance traveled from the center of each site to the McHenry Library, as diagrammed on the previous page.
Existing Pedestrian Circulation

Site A
Site B
Site C
Site D
Site E
Site F

LEGEND
PEDESTRIAN ACTIVITY CENTERS
STUDY AREA
POTENTIAL DEVELOPMENT SITES

Existing Pedestrian Circulation

Chapter 7 - Appendices

July 2015 UC SANTA CRUZ Student Housing West
APPENDIX B

ENGAGEMENT WORKSHOP OUTCOMES

The Stakeholder Engagement facilitation process was designed specifically to provide stakeholders with the overall history of the project, where the University is currently in the process, as well as current and future opportunities to participate in the planning process.

Two different engagements were held with faculty, staff, and students (both undergraduate and graduate) over the course of two days in November 2014 and February 2015. Each engagement contained a series of exercises to help prioritize pieces of the planning process. The initial engagement in November focused on where new housing should be located within boundaries set for the Campus Housing Study area. It also helped the design and planning team better understand the day in the life of a student, what housing facilities/amenities they use as well as how often they use them. The February engagement placed a greater emphasis on the sighting of different types of housing for undergraduates, graduates, and students with families as well as the individual units themselves.

In addition to the on-site engagements, a website was setup to communicate the outcomes of the engagements and provide additional feedback to the process.

**Stakeholder Engagement #1**
- Opening Presentation
- Faculty/Staff Agenda
- Exercises and Findings
  - Location Mapping
  - Empathy Mapping
- Student Agenda
- Exercises and Findings
  - A Day in the Life
  - Force Field: Why live on Campus?
  - Cultural Cartography
- Photographs

**Stakeholder Engagement #2**
- Opening Presentation
- Agenda
- Exercises and Findings
  - Site Schemes Overview
  - Pick an Ad Game
  - Build Your Own Apartment Game
- Photographs
UNIVERSITY OF CALIFORNIA
SANTA CRUZ
WEST CAMPUS HOUSING
PRESENTATION
NOVEMBER 2014

PROJECT TEAM

UC SANTA CRUZ
Dean Fitch
Jolie Kerns
Steve Houser

SCB ARCHITECTS
Octavio Gutierrez
Tim Stevens
Vitas Viskanta

MKTHINK
Allan Donnelly
Evelyn Lee
Jen Tai

ADVISORY COMMITTEE
Bruce Schumm
John Barnes
Kaysi Wheeler
Mike Yamauchi-Gleason
Peggy Delaney
Richard Hughey
Sarah Latham (co-chair)

Sean Keilen
Sue Carter (co-chair)
Sue Matthews
Whitney De Vos
STUDY OUTCOMES

**MISSION STATEMENT:** Work closely with a wide range of stakeholders to identify cost effective and attractive options for on-campus student housing that value net-zero sustainability goals and our sense of community.

**FINALIZE PROJECT PROGRAM**
- NUMBER AND TYPE OF STUDENT HOUSING
- PROJECT AMENITIES
- PROJECT ALTERNATIVE/OPTION TO IMPLEMENT
- PHASING STRATEGY
- BEST CONFIGURATIONS OF NEW SPACE
- RECOMMENDED PATH FORWARD AND DIRECTION

GUIDING PRINCIPLES

**SUSTAINABILITY**
- Integrate sustainable practices in both campus development and operations
- Encourage broad-based sustainability initiatives
- Incorporate renewable power measures and reduce consumption of non-renewable energy
- Prioritize energy-efficiency in the design, striving for a zero-net energy environment if possible.
- Design a healthy built environment that provides long-term benefits.
- Integrate the natural and built environments
- Maintain UCSC’s core configuration
- Encourage sustainability and efficiency in building layouts

**ACCESS AND TRANSPORTATION**
- Promote a walkable campus
- Discourage automobile use to and on the campus
- Consolidate parking facilities at perimeter campus locations

**NATURAL AND CULTURAL RESOURCES**
- Respect major landscape and vegetation features
- Maintain continuity of wildlife habitats
- Design exterior landscaping to be compatible with surrounding native plant
- Maintain natural surface drainage flows as much as possible
- Protect historic and prehistoric cultural resources

**CAMPUS LIFE**
- Enrich the academic experience for all students
- Offer a variety of university housing opportunities for students
- Create an array of facilities that enrich the quality of campus life

**LAND USE PATTERNS**
- Respect the natural and built environment and preserve as much open space as possible
- Protect historic and prehistoric cultural resources
INCREASE ON-CAMPUS STUDENT HOUSING

1. Conform to housing demand to support enrollment of 19,500 by 2020-21

2. Provide 7,125 beds for enrollment up to 15,000 and make housing available for 67% of enrollment above 15,000

RENEW AGING FACILITIES

3. Renovate, renew, or rebuild Family Student Housing and Kresge housing due to aging facilities that have surpassed the facility lifespan

PROVIDE A VARIETY OF HOUSING TYPES

4. Enrich the UC Santa Cruz student experience by providing a variety of housing types, configurations, and amenities

PROJECT CALENDAR

<table>
<thead>
<tr>
<th>FACILITIES ASSESSMENTS</th>
<th>PROGRAM + SITE ANALYSIS PLANNING</th>
<th>DESIGN</th>
<th>CONSTRUCTION</th>
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<tbody>
<tr>
<td>2012</td>
<td>2013</td>
<td>2014</td>
<td>2015</td>
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<td>2016</td>
<td>2017</td>
<td>2018</td>
<td>2019</td>
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SEPT 2019

PHASE 1

MOVE-IN
PLANNING CALENDAR

- **Housing Study Planning Committee**
  - 9/23/14

- **Workshop #1**
  - 11/18/14 - 11/19/14
  - Preliminary program

- **Workshop #2**
  - 2/3/15 - 2/4/15
  - Preliminary site adjacencies
  - Building massing
  - Unit plan concepts
  - Amenities

- **Public Presentation**
  - 5/11/15

- **Advisory Committee on Campus Planning and Stewardship Presentation**
  - 6/16/15

**PLANNING KICK-OFF**

**PROGRAM ANALYSIS**

**SITE ANALYSIS**

**FINAL DESIGN DIRECTION**

**PROJECT PHASING COST SCENARIOS ALTERNATIVES**

BUILT HOUSING CAPACITY IN 2014

6,608 BEDSPACES

<table>
<thead>
<tr>
<th>Type</th>
<th>COLLEGE AFFILIATED</th>
<th>NON-AFFILIATED</th>
<th>BEDSPACES</th>
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<tr>
<td>Residence Halls</td>
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<td>3,756</td>
</tr>
<tr>
<td>Apartments</td>
<td></td>
<td></td>
<td>1,742</td>
</tr>
<tr>
<td>Family Student Housing</td>
<td></td>
<td></td>
<td>199</td>
</tr>
<tr>
<td>Camper Park</td>
<td></td>
<td></td>
<td>42</td>
</tr>
</tbody>
</table>

**Total Bedspaces**: 6,608

**Colleges**

- Residence Halls: 3,756
- Apartments: 1,742
- Family Student Housing: 199
- Camper Park: 42
**TOTAL ADJUSTED CAPACITY IN 2014**

8,583 BEDSPACES (+1,975)

**OCCUPANCY**

Occupy Rates in On-Campus Housing
TOTAL ADJUSTED CAPACITY

8,583 BEDSPACES

NON-AFFILIATED BEDS
- Resident Halls: 653
- Apartments: 367
- Family Student Housing: 196
- Camper Park: 42
- TOTAL: 1,258

COLLEGE AFFILIATED BEDS
- Resident Halls: 5,098
- Apartments: 2,227
- TOTAL: 7,325

ENROLLMENT PROJECTIONS

Actual 3/4 Average On-Campus FTE Enrollment
2005 LRDP Enrollment Forecast
August 2012 P&B Enrollment Projection (housing projection after 2016)
Bedspace availability 4 years after enrollment
BEDSPACES
BEDSPACES REQUIRED
Kresge College major maintenance
FSH Redevelopment
Bedspace availability 4 years after enrollment
FALL '12: 8,437
B
C
Bed Deficit
7125
7125
UC Santa Cruz + MkThink + SCB
all content is proprietary
## STUDENT HOUSING DEMAND IN 2013

<table>
<thead>
<tr>
<th>CLASS</th>
<th>CURRENT RESIDENTS</th>
<th>MAX POTENTIAL DEMAND</th>
<th>OCCUPANCY COVERAGE RATIO</th>
<th>TOTAL DEMAND</th>
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<tbody>
<tr>
<td>Freshmen</td>
<td>3,461</td>
<td>3,485</td>
<td>1.0</td>
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<tr>
<td>Sophomores</td>
<td>1,999</td>
<td>2,113</td>
<td>1.0</td>
<td>2,113</td>
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<tr>
<td>Juniors</td>
<td>1,390</td>
<td>1,908</td>
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<td>1,785</td>
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<tr>
<td>Seniors</td>
<td>906</td>
<td>1,149</td>
<td>1.3</td>
<td>884</td>
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<td>Graduates</td>
<td>77</td>
<td>226</td>
<td>1.5</td>
<td>151</td>
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<tr>
<td>Total</td>
<td>7,833</td>
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<td>Capacity</td>
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<tr>
<td>Delta</td>
<td>(1,051)</td>
<td>(2,099)</td>
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<td>(1,585)</td>
</tr>
</tbody>
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### STUDY ASSUMPTIONS

#### REDEVELOPMENT

- **Redevelop Existing Family Student Housing**
  - Demolish existing 2 bedroom apartments
  - Build 125 apartments
  - 80 units for families with children, primarily 2 bedrooms
  - 45 units for couples or other types of families – mix of studios and 1 bedroom apartments

- **Redevelop Childcare facilities into FSH site (preferably proximate to FSH entrance)**
  - Assume continuing existing program, 60-80 children

- **Redevelop Kresge College Housing**
  - Major renovation of housing facilities
  - Explore the addition of 60-100 new bed spaces (Apartments and suites)

#### NEW CONSTRUCTION

- **Develop 900 upper division/graduate, non-college affiliated, apartment bed spaces (West Campus Apartments)**
  - Non-college affiliated
    - Consider ~250 beds to be affiliated to Kresge College
  - Graduate housing included
  - Site(s) to be determined
  - Phased development
- **Develop community space or retail area proximate to apartments to support apartment living**
  - Parking needs and ratios are variable depending on program
CONDITION OF FAMILY HOUSING

HOUSING CONDITIONS

- Facilities exceeded life span
- Significant deterioration and maintenance costs
- Structural deterioration, infrastructure failures
- Site layout and outdoor areas inadequate
- Support facilities inadequate

KRESGE HOUSING CONDITIONS

CASE STUDY

- Award winning
- Iconic architectural elements
- Brings environment into architecture

HOUSING CONDITIONS

- Compliant with life-safety criteria
- Water damage
- Termite damage
POTENTIAL AMENITIES

- Community art installations/venues, indoor and outdoor
- Bike parking and bike maintenance
- Outdoor adventures (opportunity to rent camping gear, surfboards, kayaks)
- Student storage (a location for luggage and other long-term items, particularly for out-of-town students and families)
- Outdoor social space (i.e. fire pits, tables/umbrellas)
- Mail/package delivery/Amazon lockers
- Parking
- Ubiquitous Wi-Fi
- Group Study Lounge
- Social Lounge
- Living Room
- Gaming Lounge (traditional and virtual gaming)
- Community Kitchen (may include Demonstration Cooking and Nutritional Education/Outreach)
- Multi-Purpose Room (combination Living Room, Classroom, Presentation, A/V, etc.)
- Food Emporium (any combination of Convenience Store, Coffee Shop, Café)
- Exercise/Fitness Room
- Music Room
- Innovation Lab (Maker/Builder/Hacker)
- Laundry
- Classrooms (Living/Learning)
- Swimming Pool
- Media Room
- Community Garden
- BBQ Grill
Why are you here?

We need your help shaping the future of campus housing at UCSC. Join us in this opportunity to share your thoughts directly with the planners. The work of the team will define a plan that will guide the development and redevelopment of student housing facilities over the next ten years. The 90 minute session will feature a series of two Gamestorming exercises that will require individual feedback and active collaborative engagement. Results of these engagements will be made available for public review on the project website.

Today’s Agenda:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>15</td>
<td>Project Introduction</td>
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<tr>
<td>10</td>
<td>Location Mapping</td>
</tr>
<tr>
<td>05</td>
<td>Small Group Breakout Organization &amp; Intros</td>
</tr>
<tr>
<td>30</td>
<td>Empathy Mapping</td>
</tr>
<tr>
<td>10</td>
<td>Report Out</td>
</tr>
<tr>
<td>20</td>
<td>Discussion</td>
</tr>
</tbody>
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The Activities:

Drawing Conclusions - Individual Exercise

In this exercise we will ask you to map where you think the best opportunity for future campus housing on campus is and why. The data will be compiled anonymously and published to the project website.

Empathy Mapping - Small Group Exercise

Students are the backbone of the university at UCSC. Empathy mapping will ask faculty and staff to create student personas and discuss what they hope students will think, see, hear, and feel in the new campus housing environment. The Empathy Mapping exercise will utilize small group breakouts and reporting, followed by overall discussion. Results from this exercise will be compiled and shared on the project website.

For more information visit the project website at:

www.ucsc.mkthinkstrategy.info
Location Mapping

Where should new housing be?
For this exercise, we asked faculty/staff members to think about what adjacencies make for a good housing location. Participants marked locations for new housing and noted factors that influenced their decisions.

The more common notes we received from the exercise regarding the two locations are listed below:

1. Build in Porter Meadow adjacent to existing infrastructure.
   - Infill between Porter College and Family Student Housing.
   - Allow for mix of transfer, graduate, international students, and family student housing.
   - Add density to existing Family Student Housing.

2. Increase density of Kresge.
   - Add density and height to Kresge.
   - Infill between Kresge and Porter College.

- Vote for proposed location
Empathy Mapping Profiles

What will the students living in the future campus housing see, say, do, hear think, and feel?

For this exercise, we asked faculty/staff members to think about what type of culture the students living in the future campus housing would be a part of. The following profiles are culled from various breakout groups and highlight recurring themes regarding graduate and undergraduate students.

**UNDERGRADUATE STUDENT**

**PROFILE:**
Name: Rosa
Type: Undergraduate, junior transfer
Department: Business, Engineering (double major)
Lives: Transfer student housing

**SEES**
- trees, meadow, ocean views
- looking for private space
- ample small lounges

**SAYS**
- "I wish there was a campus shuttle to downtown or to off-site parking."
- "I wish I was closer to the gym."
- "I wish I had more personal storage."
- "I wish I had more privacy."
- "I need increased bus service from just public buses."
- "I need more parking."
- "I would like to cook more of my meals."

**HEARS**
- about tuition hikes
- wants to hear peace and quiet
- goes to a dedicated shared "quiet" room for quiet activities

**DOES**
- spends time at Baskett Engineering
- jogs at East field
- mentors other students in a quiet space
- uses Wi-fi indoors and outdoors
- works to support herself at a mix of on and off-campus jobs

**THinks**
- My room is very small, claustrophobic
- Drawn to dedicated transfer student housing
- Shocked not to have a car unlike community college
- Conscious of health (opportunities to go to gym, swimming pool, eat healthy food)

**FEELS**
- Older than peers
- crammed/trapped in indoor spaces without Wi-Fi
- stressed from academic pressures
- adjusting from community college
- adjusting from living at home
- feeling separate on West campus from the rest of campus

---

**UNDERGRADUATE STUDENT**

**PROFILE:**
Name: Chris
Type: undergraduate student, 4th year
Department: Film Studies
Lives: Upper division student housing

**SEES**
- cool furniture with flexible configurations
- flexible Multi-purpose space
- recreation facilities
- convenience store
- media center
- maker shop
- creative spaces
- community garden
- meditative space

**SAYS**
- "I'm glad I was allowed to pick my own roommates!"
- "I'm prepared for the real world."

**HEARS**
- other students are jealous of my amenities
- get input from peers on film projects
- Our furniture is amazing!

**DOES**
- walks downstairs to convenience store
- hosts movie nights in communal space
- active in student organizations on campus
- mentors underclassmen

**THinks**
- worried about cost
- about options for preparing his own meals
- "I may never have a better view in my life!"

**FEELS**
- glad to have opportunities to live on campus
- excited about living close to class and academic resources
- enjoys independence
- enjoys being in a LGBT-safe space
- glad to have privacy
GRADUATE STUDENT

SEES
- enclosed play space
- parking is walking distance to home
- direct walking/biking path to office
- able to see communal space from her own balcony
- a food pantry
- community board with upcoming events

SAYS
- "Let’s have a playdate!” to other parents
- "I’m lucky to live in a green, modern, sunny, beautiful new community.”
- "I’m glad I have a place to store my road bike!"
- "Management is responsive to residential needs.”

HEARS
- not hearing neighbors, traffic, or dishwashers
- lull of her own washing machine and dryer
- other children playing outside
- nature noises outside

DOES
- Makes meals at home
- Works on-campus as a teaching assistant
- Takes daughter to play space
- Has a private place for feeding her child
- Eats in communal kitchen with other neighbors
- Controls her home with her own climate control
- Uses low-flow plumbing
- Uses small gym with a few exercise machines
- Goes to surplus/thrift store to pick up lightly used furnishings

THINKS
- great access to daughter in childcare to visit in-between classes
- able to pay summer rent with financial aid, and not have to move family
- planning to utilize Counselor-in-residence program
- how to protect daughter from Porter Meadow’s smoke
- grateful for close access to convenience store near home

PROFILE:
Name: Jane
Type: Graduate student
Department: Politics
Lives: Family Student Housing

FEELS
- strong sense of community
- safe and secure
- stress about balancing family and school
- anxious about costs
- happy with resources for older children
- mix of independence for family unit and community with other families
- thankful that campus Wi-Fi works at home
- adequate privacy
- glad that untraditional families are welcome
- thankful for elevator for moving groceries and stroller upstairs

GRADUATE STUDENT

SEES
- broad demographic mix
- other graduate peers
- trees, views of natural environment
- transit infrastructure
- recycling, composting, donation stations
- grey water reuse
- double occupancy apartments
- coffee shop, convenience store
- convenience communal kitchen
- students in departmental meeting spaces

SAYS
- "I need my financial aid to be higher to cover housing.”
- "Waiting for the bus makes my commute very long.”
- "I love being at Santa Cruz because I can both surf and mountain bike in the same campus!
- "I have a great café in my home that’s also a social hub.”

HEARS
- reasonable neighborhood noises
- receives and gives advice to peers and undergraduates
- hears about social events
- wildlife
- friends at the outdoor barbeque
- misunderstanding American slang and references

DOES
- a lot of walking on campus
- plays many video games on the Internet, requiring bandwidth
- hikes to a remote lot to retrieve his car when needed
- participates in local community events
- works out at a nearby recreational facility
- meets colleagues at the Multi-purpose room
- grabs a beer at the neighborhood pub

THINKS
- "How much longer?"
- Appreciative reflection about UCSC
- positive thinking about the future
- “Maybe I’ll get my Ph.D!”
- figuring out logistics of bringing extended family to the U.S.

FEELS
- stressed from academic pressures
- frustrations from having a busy schedule
- family pressures
- inspired by the ocean view
- anxious about future
- safe and secure

PROFILE:
Name: Sam
Type: Graduate, international student
Department: Computer Engineering
Lives: Graduate student housing

Chapter 7 - Appendices
Why are you here?

We need your help shaping the future of campus housing at UCSC. Join us in this opportunity to share your thoughts directly with the planners. The work of the team will define a plan that will guide the development and redevelopment of student housing facilities over the next ten years. The 90 minute session will feature a series of three Gamestorming exercises that will require individual feedback, active collaborative engagement, and text to respond polling. Results of these engagements will be made available for public review on the project website.

Today’s Agenda:

10 minutes: Project Introduction
10 minutes: Individual Day in the Life Exercise
05 minutes: Small Group Breakout Organization & Intros
20 minutes: Force Field Exercise
10 minutes: Report Out
10 minutes: Discussion
05 minutes: Poll Everywhere Amenity Survey

The Activities:

Day in the Life Exercise - Individual Exercise
We need help understanding where students spend their time on campus throughout the day. Consider where and when you undertake different activities throughout the week given your class schedule, where you study, where you relax, where you work, and where you go to eat. How does this differ from day to day or week to weekend? You will have the opportunity to map activities on one to seven days depending on how much you are interested in sharing. The data will be compiled anonymously and published to the project website.

Force Field Exercise - Small Group Exercise
This exercise addresses positive items related to current college student housing and items that could use improvement. Given the current collection of campus housing opportunities, what would you most like to keep relative to culture, amenities, etc? Alternatively, what areas could use some improvement? The Force Field exercise will utilize small group breakouts and reporting, followed by overall discussion. Results from this exercise will be compiled and shared on the project website.
Day in the Life

How do you spend your time?
We wanted to better understand the typical day of a graduate or undergraduate student at UC Santa Cruz. For this exercise, we asked students to go through a 24-hour day (starting with 12 AM), and tell us where they spend their time.

<table>
<thead>
<tr>
<th>Time</th>
<th>ACADEMIC</th>
<th>ACTIVE</th>
<th>HOME</th>
<th>OTHER</th>
<th>PUBLIC SPACES</th>
<th>UTILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>12a</td>
<td>Classroom</td>
<td>Community Garden</td>
<td>Bedroom</td>
<td>Campus Office</td>
<td>Community Art Venue</td>
<td>Mail Room</td>
</tr>
<tr>
<td>1a</td>
<td>Computer Lab</td>
<td>Group Sports</td>
<td>Game Lounge</td>
<td>Career Center</td>
<td>Dining Hall</td>
<td>Parking Lot</td>
</tr>
<tr>
<td>2a</td>
<td>Library</td>
<td>Gym/fitness facilities</td>
<td>Kitchen</td>
<td>Childcare</td>
<td>Food/Retail</td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>Research Lab</td>
<td>Outdoors</td>
<td>Living Room</td>
<td>Commuting</td>
<td>Group Study Lounge</td>
<td></td>
</tr>
<tr>
<td>4a</td>
<td>Studio</td>
<td>Downtown</td>
<td>Media Room</td>
<td>Downtown</td>
<td>Multicultural Center</td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>Study Room</td>
<td>Health Center</td>
<td>Multi-Purpose Room</td>
<td>Job</td>
<td>Social Lounge</td>
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</tr>
<tr>
<td>6a</td>
<td></td>
<td></td>
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<td>7a</td>
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</tbody>
</table>

PERCENTAGE OF RESPONSES

Category
- Academic
- Active
- Home
- Other
- Public Spaces
- Utilities
Force Field Analysis: Why live on campus?

For this exercise, we asked students to take us through the thought process when deciding whether to live on-campus or off-campus. Participants listed out driving forces and hindrances to living on-campus and prioritized each of the factors. The list below is a summary of those prioritizations.

**DRIVING FORCES**
- Convenience, proximity to class, library, dining halls (16)
- Community, sense of belonging (11)
- Proximity to Upper campus/natural environment (10)
- Opportunities associated with being an RA (5)
- Utilities included in rent structure (4)
- Easier to meet new people, go to social events (3)
- Flexible payments with financial aid (3)
- First/last month’s rent included (3)
- Childcare (2)
- Trust neighbors (2)
- Safety and security (1)
- Student services - printing, health center, financial aid (1)
- Once in a lifetime experience (1)
- Ability to contribute to community and diversity (1)
- Support from other families (1)
- Transit, don’t need car
- Access to athletics/recreation
- On-campus employment
- Architecture, quality of buildings
- On-campus programming, social events
- Live close to people with similar interests
- Low cost and free community/public spaces
- Places to relax between classes
- No need for parking pass
- Package delivery
- No need to deal with landlords, lease terms
- Uncertainties associated with city of Santa Cruz
- Roommate matching
- Convenience/efficiency of dining services
- Better communication within campus organizations
- Acclimate with UCSC
- Furnished
- Low cost of Trailer Park
- Communal food potlucks in Trailer Park
- Sense of freedom in Trailer Park
- Communal fridge in Trailer Park
- Ability to personalize space in Trailer Park

**HINDRANCES**
- Cost of campus housing (16)
- Parking availability and cost (8)
- Overcrowding, size of living space (5)
- Availability of single rooms on-campus (4)
- Quality of building conditions (4)
- No pets on campus (4)
- Heating not functional (3)
- No dishwashers, no garbage disposals (3)
- Roommate self-selection (3)
- Lack of freedom, university policies (3)
- Institutional feel of a dorm (2)
- Restricted to Dining halls (food options, schedule) (2)
- Ability to separate academic and home atmosphere (2)
- No compost in Family student housing (2)
- Sense of independence off-campus (2)
- Proximity to beach and downtown activities (1)
- Type of housing options (1)
- Child-friendly play spaces (especially 9+ years old) (1)
- Isolation of off-campus, hard to meet people (1)
- Existing Graduate housing lacks sun (1)
- Room to garden (1)
- Too noisy, rooms are not sound proof (1)
- Lack of privacy, personal space
- Off-campus employment
- Lack of cell phone reception in Family student housing
- Shared bathroom facilities
- Lack of cooking space in Residential halls
- Difficult to commute on-campus from off-campus
- More accessible laundry facilities
- Multi-level access, stairs, etc.
- Smoke free
- Construction on campus
- Proximity of car to front door for safety
- Disconnected from campus life
- Stress-inducing
- Lack of entertainment options
- Lack of freedom, university policies (1)
- Institutional feel of a dorm (1)
- Accommodation feel of a dorm (1)

**Why live on campus?**

- **CONVENIENCE**
  Students prioritized living close to class and other campus resources such as the library, dining halls, and on-campus jobs.

- **COMMUNITY**
  Living on-campus provides a “sense of belonging”, as well as more opportunities to meet new people and go social events.

- **NATURAL ENVIRONMENT**
  Students enjoy views to the ocean and opportunities for outdoor activities in Upper Campus.

**Why live on campus?**

- **COST**
  On-campus housing is a relatively higher cost for shared space.

- **OVERCROWDING**
  On-campus housing units are over capacity and students expressed a desire for more personal space and privacy.

- **AVAILABILITY**
  Of single rooms
Cultural Cartography is a patented self-contained, quick-to-deploy measurement tool designed to profile cultures at scale and in time. It is a data-based technology with... and accurately quantifying culture for the purposes of informing design, improving services, and optimizing operations.

By accurately mapping cultures in terms of eight categories, Cultural Cartography profiles give cultural systems analysts a robust framework within which to conduct valuable design research that accurately and confidently informs MKThink's diverse service offerings.

What are the cultural tendencies of the various cultural cohorts at the University of California Santa Cruz today and who do they aspire to be in the future?
Future State Aspirations

The future state aspirations for UCSC are represented by a star shape in the current state plot. The star shape indicates that there is no clear consensus on student aspirations. The student group of this shape is heterogeneous, with students having diverse aspirations regarding technology awareness, financial wellness, environmental wellness, human wellness, diversity, and decision inputs. There is no clear tendency emerging from the current state data.

Current State - Appendices

- Social structure
- Management
- Financial
- Technology awareness
- Environmental wellness
- Human wellness
- Diversity
- Decision inputs

The current state aspirational chart illustrates that students have diverse and varied aspirations, with no single dominant trend emerging. Students wish to become more resilient and adopt a net-positive approach to environmental wellness, as they desire significant increases in the exploratory tendency by a significant increase in the exploratory score for natural resources. Students also wish to see an increase in the intuitive score for both technology awareness and environmental wellness. With high standard deviations across all categories, all of which represent alternative trends of UCSC, there is no clear consensus among students regarding the current cultural tendencies of UCSC.

In the future state, students desire to become significantly more resilient and adopt a net-positive approach to environmental wellness. This indicates that perceptions and intuitive tendencies are becoming more prominent. With high standard deviations across all categories, all of which represent alternative trends of UCSC, there is no clear consensus among students regarding the current cultural tendencies of UCSC.

The mild star shape that the current state plot takes, does not indicate a singular identifiable cultural category. Rather, the shape suggests that the cultural aspirations of UCSC students are diverse and varied, with no clear consensus emerging. The future state aspirations for UCSC are represented by a star shape in the current state plot. The star shape indicates that there is no clear consensus on student aspirations. The student group of this shape is heterogeneous, with students having diverse aspirations regarding technology awareness, financial wellness, environmental wellness, human wellness, diversity, and decision inputs. There is no clear tendency emerging from the current state data. However, the star shape suggests that students aim to become significantly more resilient and adopt a net-positive approach to environmental wellness.

Overall, the data indicates that there is no clear consensus among students regarding the current cultural tendencies of UCSC. The diverse and varied aspirations of students suggest a lack of consensus and a need for further exploration and discussion to understand the true cultural aspirations of the student body.
Future: Exploratory Tendencies in the Movement Towards Informed and Researched With Regard to Management

Assessment: Faculty + Staff Cultural Aspirations

Current State: Faculty + Staff Tendencies

Chapter 7 - Appendices
Photographs
Why are you here?

We need your help shaping the future of campus housing at UCSC. Join us in this opportunity to share your thoughts directly with the planners. The work of the team will define a plan that will guide the development and redevelopment of student housing facilities over the next ten years. The two hour session will feature a series of three exercises that will require brainstorming and active collaborative engagement. Results of these engagements will be made available for public review on the project website.

Today's Agenda:

20 minutes: Introductions
25 minutes: Site Scheme Case Study
25 minutes: Discussion and Voting
15 minutes: Individual Pick an Ad Exercise
20 minutes: Make Your Apartment Game
10 minutes: Discussion

The Activities:

Site Scheme Case Study
In groups, we are going to evaluate pros and cons of three site configurations according to the metrics of: site locations, site density/connection to open space, pedestrian/transit patterns, parking, and vehicle circulation.

Pick an Ad Exercise
This exercise will ask you to look at three typical housing ads and choose which apartment you’d be most interested in visiting first. After “visiting” each of the units and gathering more information about them, we’ll ask you to reevaluate whether you’d to choose to apply for your initial choice.

Make Your Apartment Game
In this game, you’ll be assigned roommates and as a group given 100 “Slug cards.” All groups will start by picking a baseline unit. Using all the cards, we’ll be asking you to then trade for amenities and features to add to your unit.

For more information visit the project website at:
www.ucsc.mkthinkstrategy.info
Participants were presented with three site schemes and told that all buildings are to be either 3 or 4 stories. We asked participants to evaluate each scheme based on the following categories:

**HOUSING SITE LOCATIONS**
- i.e., Are the housing types located in the right location?

**SITE DENSITY/CONNECTION TO OPEN SPACE**
- i.e., Are the housing complexes the appropriate distance from each other? How much existing open space do they use up?

**PEDESTRIAN/TRANSIT PATTERNS**
- i.e., Is housing close enough to existing transit stops?

**PARKING**
- i.e., Is parking an appropriate distance from housing?

**VEHICLE CIRCULATION**
- i.e., How are the new roads servicing new housing? Do streets cut off housing communities from each other?

---

**Scheme 1:** Development of Sites C1, C2 & E.

- Undergraduate housing in 4 story buildings
- Family and graduate student housing in 3 story buildings
- Lower land disturbance and potential greater open space restoration at FSH site
- FSH and graduates on a larger and flatter site with connection to meadow
- New access road located west of development that connects Heller to Porter-Krause Road
- Requires temporary relocation and phased construction of FSH residents

**Scheme 2:** Development of Sites C1, C2 & E.

- Undergraduate housing in 4 story buildings
- Family student housing in 2-3 split-level buildings
- Graduate housing in 3 story elevator buildings
- Lower land disturbance and potential greater open space restoration at Undergraduate site
- FSH/Graduate student parking structure extends into the meadow
- New vehicular access through the meadow
- New FSH can be built without displacing current residents

**Scheme 3:** Development of Sites C1, C2, D & E.

- Undergraduate housing in 3-4 story buildings
- Family student housing in 2-3 split-level buildings
- Graduate housing in 3 story elevator buildings
- Lower land disturbance and potential greater open space restoration at Undergraduate site
- No through access between sites
- New south loop access road can connect at two locations along Heller Drive
- Requires temporary relocation and phased construction of FSH residents
### STUDENT RESPONSES

<table>
<thead>
<tr>
<th>Metric</th>
<th>Scheme 1</th>
<th>Scheme 2</th>
<th>Scheme 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing site locations</td>
<td>28%</td>
<td>28%</td>
<td>56%</td>
</tr>
<tr>
<td>Parking</td>
<td>22%</td>
<td>0%</td>
<td>72%</td>
</tr>
<tr>
<td>Pedestrian/Transit patterns</td>
<td>25%</td>
<td>0%</td>
<td>58%</td>
</tr>
<tr>
<td>Density/Connection to open space</td>
<td>33%</td>
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<td>56%</td>
</tr>
<tr>
<td>Vehicle circulation</td>
<td>10%</td>
<td>10%</td>
<td>61%</td>
</tr>
</tbody>
</table>

### STAFF RESPONSES

<table>
<thead>
<tr>
<th>Metric</th>
<th>Scheme 1</th>
<th>Scheme 2</th>
<th>Scheme 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing site locations</td>
<td>58%</td>
<td>31%</td>
<td>50%</td>
</tr>
<tr>
<td>Parking</td>
<td>67%</td>
<td>25%</td>
<td>36%</td>
</tr>
<tr>
<td>Pedestrian/Transit patterns</td>
<td>67%</td>
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<td>28%</td>
</tr>
<tr>
<td>Density/Connection to open space</td>
<td>64%</td>
<td>28%</td>
<td>50%</td>
</tr>
<tr>
<td>Vehicle circulation</td>
<td>78%</td>
<td>42%</td>
<td>22%</td>
</tr>
</tbody>
</table>

FACULTY/STAFF overwhelmingly selected SCHEME 1 for every metric, while STUDENTS voted SCHEME 3 as the highest for every metric.

SCHEME 3 overall received the highest total number of votes. PEDESTRIAN/TRANSIT PATTERNS did not receive 6 votes due to a desire to show more pedestrian bridges and paths.

The limited dedicated PARKING in SCHEME 3 received the highest number of votes. DENSITY/CONNECTION TO OPEN SPACE did not receive 5 votes due to opposition to development in the meadow.

There was opposition to putting vehicular access through the meadow, as in SCHEME 2.

Generally, both students and faculty/staff asked to limit development in the meadow where possible.
**PICK AN AD GAME**

In this game, participants were given a mock-apartment unit ad with a brief description of each unit. Based on the initial descriptions they were instructed to select the apartment unit they would most like to visit. After an initial selection participants were informed to unfold their ads revealing a more detailed overview of each unit. Based on the new information they were given the opportunity to change their selection.

### RESULTS

<table>
<thead>
<tr>
<th>Apartment Ad</th>
<th>COZY 4 BR, 1 BA</th>
<th>LARGE 4 BR, 1 BA</th>
<th>SPACIOUS 2 BR, 1 BA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>super sustainable complex</td>
<td>LEED Platinum</td>
<td>2 bedrooms</td>
</tr>
<tr>
<td></td>
<td>4 bedrooms</td>
<td>4 bedrooms</td>
<td>1 bathroom with shower/tub</td>
</tr>
<tr>
<td></td>
<td>1 bathroom, no tub</td>
<td>1 bathroom, shower</td>
<td>full-size kitchen</td>
</tr>
<tr>
<td></td>
<td>small kitchen</td>
<td>full size kitchen</td>
<td>living room</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cozy shared living room</td>
<td>balcony with great views</td>
</tr>
</tbody>
</table>

#### Initial Votes

![Initial Votes Diagram]

#### Impressions Upon Visiting

<table>
<thead>
<tr>
<th>COZY 4 BR, 1 BA</th>
<th>LARGE 4 BR, 1 BA</th>
<th>SPACIOUS 2 BR, 1 BA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal utility costs and net-zero energy usage</td>
<td>Relatively sustainable unit with moderate utility costs</td>
<td>Relatively high utility costs</td>
</tr>
<tr>
<td>Relatively bare-bones and rather small</td>
<td>Rooms are decent size with mix of private and shared spaces</td>
<td>Lots of space</td>
</tr>
<tr>
<td>Small bedrooms</td>
<td>Bedrooms are fair size with room for bed, desk, dresser</td>
<td>Bedrooms are very generously sized</td>
</tr>
<tr>
<td>No shared living room</td>
<td>Bathroom is well-sized with shower, no tub</td>
<td>Bathroom is spacious with shower and tub</td>
</tr>
<tr>
<td>Relatively simple bathroom with shower, no tub</td>
<td>Full kitchen</td>
<td>Full size kitchen with dishwasher and breakfast nook</td>
</tr>
<tr>
<td>Low-flow plumbing</td>
<td>Small living room</td>
<td>Large living room</td>
</tr>
<tr>
<td>Small kitchenette</td>
<td>Small balcony</td>
<td>Hardwood flooring with carpet in bedrooms</td>
</tr>
<tr>
<td>Sustainability rating: Net-zero energy</td>
<td>Sustainability rating: LEED Platinum</td>
<td>Sustainability rating: none</td>
</tr>
</tbody>
</table>

#### Final Choices

![Final Choices Diagram]

1 student from cozy 4 BR to large 4 BR

No one who initially picked this changed their mind

6 students from spacious 2 BR to large 4 BR
16 faculty/staff from spacious 2 BR to large 4 BR
2 faculty/staff from spacious 2 BR to cozy 4 BR
BUILD YOUR OWN APARTMENT GAME

In this game, participants were assigned roommates and as a group given 100 Slugs. All groups started by picking a baseline unit—either a 4-bedroom or 2-bedroom unit. Both unit types consisted of single bedrooms. If groups chose the 2-bedroom unit, they used 25 Slugs towards the unit. Using your remaining Slugs, groups then were instructed to trade for features to add to the unit.

Amenity Options
Groups used their 100 Slugs (or 75, if they chose the 2 bedroom unit) to trade for the following amenities or sustainability upgrades.

- **Bathroom**
  - 20 Slugs
  - Only applicable to 4 BR

- **Full Kitchen Upgrade**
  - 15 Slugs

- **Living Room**
  - 15 Slugs

- **Balcony**
  - 5 Slugs

- **Dedicated Parking**
  - 50 Slugs

- **Storage Closet**
  - 10 Slugs

- **Living Room**
  - 15 Slugs

- **Fitness Room**
  - 10 Slugs

- **Game Room**
  - 5 Slugs

- **Music Room**
  - 5 Slugs

- **Study Room**
  - 5 Slugs

- **Food Emporium**
  - 15 Slugs

- **Computer Lab**
  - 10 Slugs

- **Bicycle Shop**
  - 5 Slugs

- **LEED Platinum**
  - 55 Slugs

- **Net Zero Building**
  - 75 Slugs

- **Outdoor Social Space**
  - 5 Slugs

- **Garden**
  - 5 Slugs

- **Meeting Room**
  - 5 Slugs

- **Social Lounge**
  - 5 Slugs

- **Barbeque Pit**
  - 5 Slugs

- **Slug Card**
  - 5 Slugs

Group Responses

**Student Responses**

4 BR

4 BR

4 BR

4 BR

4 BR

4 BR

4 BR

2 BR

**Staff Responses**

4 BR

4 BR

4 BR

4 BR

4 BR

4 BR

4 BR

2 BR

2 BR
### UNIT TYPE

<table>
<thead>
<tr>
<th>UNIT TYPE</th>
<th>4 BEDROOM</th>
<th>2 BEDROOM</th>
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<td></td>
<td>8</td>
<td>1</td>
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</table>

### UNIT UPGRADE

<table>
<thead>
<tr>
<th>UNIT TYPE</th>
<th>FULL KITCHEN</th>
<th>LIVING ROOM</th>
<th>BALCONY</th>
<th>STORAGE CLOSET</th>
<th>1 BATHROOM</th>
<th>DEDICATED PARKING</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>36</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>0</td>
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</table>

### SHARED UPGRADE

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SOCIAL LOUNGE</th>
<th>STUDY ROOM</th>
<th>FOOD EMPORIUM</th>
<th>OUTDOOR SOCIAL SPACE</th>
<th>BARBECUE PIT</th>
<th>FITNESS ROOM</th>
<th>MEDIA ROOM</th>
<th>GARDEN</th>
<th>COMMUNAL KITCHEN</th>
<th>GAME ROOM</th>
<th>MUSIC ROOM</th>
<th>COMPUTER LAB</th>
<th>MEETING ROOM</th>
<th>COMMUNITY ART VENUE</th>
<th>BICYCLE SHOP</th>
<th>SWIMMING POOL</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>23</td>
<td>66</td>
<td>4</td>
<td>20</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
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<td>1</td>
<td>1</td>
<td>0</td>
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### SUSTAINABILITY UPGRADE

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>LEED PLATINUM</th>
<th>NET ZERO</th>
<th>LIVING GREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### DEDICATED PARKING and SWIMMING POOL

were not chosen by any of the groups.

### None of the student groups selected the EXTRA BATHROOM unit upgrade.

### Students’ most desired unit upgrade was the FULL KITCHEN.

### Who picked sustainability upgrades?

**STUDENTS**

- 3/7 picked LEED Platinum
- 1/7 picked Net Zero

**STAFF**

- 4/13 picked LEED Platinum

Groups that chose a Sustainability Upgrade were able to afford an average of 9.5 fewer amenities.

In general, the FOOD EMPORIUM was preferred to the COMMUNAL KITCHEN however groups that did not select a FULL KITCHEN desired a COMMUNAL KITCHEN while the FOOD EMPORIUM was viewed as a valuable amenity for the units that selected a FULL KITCHEN.
Photographs
STAKEHOLDER OUTREACH

Kresge College
March 9, 2015 World Café Event
Location: Kresge Seminar Room
5:00 pm

Attendees
• 20 Kresge students

In March, a presentation and workshop with the Kresge community was facilitated during their World Café sessions, which described the planning process and elicited feedback from the students to incorporate into the final study. The workshop focused on two activities to facilitate student discussion.

Kresge Case Study
The first asked students to evaluate the current physical site plan of Kresge College, critiquing its functionality and listing positive and negative aspects of the residential and academic layout. Students were then asked to provide new ideas and suggestions to improve the physical design of the college.

Outcomes:
• Students most often cited their adjacency to the natural environment, small outdoor gathering spaces, and access to kitchens in their units as positive characteristics of Kresge College.
• Students most often cited the lack of access to the Kresge meadow, inconvenient location of academic, administrative and amenity spaces, the need for a larger “quad” for outdoor gatherings, and lack of recreational space as negative characteristics.
Suggestions for improvement included:

- Create more outdoor places to hang out, including one central gathering space like a “quad”
- Include gender neutral bathrooms
- Provide bike rooms
- Increase access to natural environment from street and residential units with better pedestrian connections
- The Kresge students were consistent with the outcomes of the engagement workshops held in February in prioritizing access to a kitchen and determining that additional bathrooms were not necessary.

All students were put in groups of 4-6. Groups were given a baselines unit and asked to collectively decide which features to add to their unit.

Make Your Apartment Game

The second activity focused on prioritizing unit types and desired amenities:

- The students valued net zero energy goals over LEED Platinum and the Living Green Building.
- For those that selected a Net Zero Energy Building, a garden and outdoor social space were defined amenities.
- For those that did not select a Net Zero Energy Building, shared amenities, including a computer lab and meeting space, were defined.
West Campus Planning Study: Engagement Session on Kresge Housing  
World Café Kresge  I  March 9, 2015

We need your help shaping the future of housing at Kresge College. We are working on a plan that will begin to guide the future of student housing facilities over the next ten years. Tonight is an opportunity to focus on Kresge College and share your thoughts directly with the planners. The one hour session will feature two exercises that will require brainstorming and active collaborative engagement.

Tonight’s Agenda:
– Brief Intro –

30 min  Kresge Case Study
       -- Evaluation (15 min)
       -- Discussion / Proposal (10 min)

25 min  Make Your Apartment Game
       -- Selection (15 min)
       -- Discussion (10 min)

Activities:

Kresge Case Study
Evaluation: In groups, we are going to evaluate pros and cons of the existing Kresge built and natural environment. We will analyze the existing configuration according to the metrics of: site density and connection to open space, outdoor programs and amenities, pedestrian / transit patterns, parking, vehicle circulation.

Discussion: After our evaluation, each group will be asked to propose three ideas to address items identified as “cons” in the Evaluation, and share these with the entire group.

Make Your Apartment Game
Selection: In this game, you’ll be assigned roommates and as a group given 100 “Slug cards.” All groups will be given a baseline unit. Using all the cards, we’ll be asking you to then trade for amenities and features to add to your unit.

Discussion: After you have selected the components of your ideal unit, each group will be asked to share your thought process with the entire group.
Family Student Housing (FSH)
May 26, 2015 Housing Forum
Location: Blue Note Café
6:00 p.m.

Attendees
• 15 Family Student Housing (FSH) Residents: 4 undergraduate, 7 graduate, 1 Post-Doc, 3 non-students
• 3 Colleges, Housing, and Educational Services (CHES) Staff in attendance: Steve Houser, David Keller, Alan VanderPaas

Background (Provided by Steve Houser)
• The campus is undergoing a West Campus Planning Process. West Campus Planning was originated to manage facility needs at FSH and Kresge as well as the need to deliver new bed spaces for the 2005 Long Range Development Plan (2005 LRDP).
• The West Campus Planning exercise is currently focusing on three primary site locations: (a) the site currently used for FSH; (b) the meadow north of FSH and west of Porter; and (c) the Kresge site. The area north of the Camper Park (inclusive of the camper park) is also being considered as a potential development site.
• The 2005 Long Range Development Plan (2005 LRDP) requires that CHES deliver bed spaces in proportion to enrollment growth when enrollment exceeds 15,000 Full Time Equivalent (FTE) students (using a 3 Quarter Average).
  • CHES is to deliver a minimum of 7,125 bed spaces, and when enrollment exceeds 15,000 FTE, CHES must deliver 2 additional bed spaces for every three students enrolled beyond 15,000
• Two of the existing CHES facilities on the West Campus (Kresge and FSH) are in need of redevelopment.
  • Maintaining programs during redevelopment for each Kresge and FSH requires very complex planning.
  • With respect to FSH redevelopment, there are a number of unique considerations if we were to try and redevelop while some residents were on site:
    - The existing circulation and building layouts do not meet current accessibility codes
    - The existing parking layout is undesirable (sloped parking areas)
    - Construction noise, debris would have high impacts on both existing residents and the EES program
    - There could be disruptions to utility service (electrical, sewer, water) for residents and potentially EES at times during construction
  • Maintaining CHES bed spaces (to fulfill LRDP requirements) is also an important consideration when evaluating FSH and Kresge redevelopment
• CHES has evaluated many scenarios related to FSH redevelopment; one scenario that we want to explore is to evaluate the possibility of relocating the FSH program off campus in order to allow development of the existing FSH site
  • We are looking for input about this concept
Questions and from Residents about an Off-Campus FSH Program (Answers Provided Primarily by Steve Houser)

I. Question: Why is major redevelopment necessary at FSH?
Answer: There are a number of reasons: (a) the site infrastructure is at the end of its usable life and becomes difficult to replace if the buildings remain in-place; (b) the existing structures are over 40 years old, and trying to renew structures at this age and condition is far less economically efficient than trying to rebuild them; (c) the existing building configurations do not ideally support FSH program needs.

II. Question: Are the FSH apartments safe?
Answer: Yes, there are no concerns for the safety of the facilities. However, the facilities clearly need updating, and performing such updates triggers new codes that drive new designs. Both codes and resident needs have changed in the past 40 years.

III. Question: What evaluations have been done to quantify the need for a major redevelopment?
Answer: We have had several professional assessments completed of the current facilities to determine if the investment for renovations would be a viable alternative to major redevelopment:
1) Stripping that apartments down to the wooden structure and renovate the apartments as they stand
2) Removing the current apartment buildings and rebuilding upon the current foundations, including pulling up roads for replacement of infrastructure
3) Complete reconstruction of the site with no restrictions

The professional evaluations point to a complete redevelopment of the FSH complex.

IV. Question: What would redevelopment of FSH look like?
Answer: Nothing has been decided, there is no imminent plan to date. There are two general approaches: (a) building FSH on-campus and then moving program residents to those units; (b) leasing an off-campus apartment community and then moving FSH residents to this community.

All options are not imminent and would likely take place several years into the future. As a result, most existing residents would be unlikely candidates to be relocated.

With respect to the first option, if the current site is chosen, and there is no identified location to move residents during construction, then the project would have to be phased. In one scenario, Phase One would be half the families moving into one part of the complex while the other part was redeveloped. Phase Two would be the move of the remaining 50% into the renovated units, and then proceeding to redevelop this area. This process would be very complicated. Also, the longer a construction project takes, the higher the overall costs.
With respect to the latter option, we have considered options to (a) rebuild new facilities for FSH on campus or (b) keep the FSH program off-campus. We are looking for feedback right now on the latter option.

Additional Resident Comments:
1. Please consider different apartment sizes be considered in any redevelopment [note: some residents noted that many potentially tenants would try to “squeeze” into units that were too small in order to save rent].
2. Please consider increased safety features like sidewalks and enclosed green space and playgrounds.

V. Question: We would prefer to continue to live on-campus. Couldn’t you just structure redevelopment around persons in residence? For example, re-develop the units one at a time, or perhaps do 100 units at a time?

Answer: We have evaluated this as an option, and while it is feasible, it is not ideal. Besides the noise and other construction associated impacts, there could be frequent utility disruptions. In addition, construction sites could be very problematic when there are so many small children in a proximate location.

Lastly, structuring a project in this manner could present significant additional cost and budget impacts that would be very problematic for the syndicated housing system.

Additional Resident Comments:
1. Families would not want to live next to a construction site as in the option of rebuilding half the complex while the other half resides nearby.
2. Some families would prefer to move off-campus if that would accelerate the completion of the project.
3. Some families would be fine living near the redevelopment site if it meant staying within the safe confines of the UCSC campus.
4. Can this redevelopment be a teaching project for those interested in non-paid internship/apprenticeship positions?
5. Many families would agree to move off-campus if they were assured they would return to campus housing in a reasonable time period.
6. How would any project cost overruns impact family residents when they move into the new facilities (this was answered by a brief explanation of the syndicated system, and how costs are shared across all of housing).

VI. Question: Have you taken into consideration the loss of ‘community’ for our residents if you moved them off-campus?

Answer: The intention would be to find the best solution of communal living off-campus that addresses the needs of student families as best possible. First, we are assuming that any residents would like to live in an apartment complex very near campus (West Santa Cruz). While we have not identified a target apartment community, we do know that given the size constraints of off-campus apartment communities, it is likely that we would need to look for one community to accommodate families with children and other communities to accommodate other FSH program residents.
Additional Resident Comments:
1. FSH should be located on campus because it reflects the campus’ commitment to families
2. Consenting to a move off campus (even for a temporary duration) seems risky as doing so could allow the campus to permanently relocate the program off-campus
3. We do not want to be forced into car ownership if placed off-campus – are bus and shuttles viable options?
4. Transportation needs to be well-defined and be able to accommodate the late night schedules of graduate students doing research
5. Can you consider the Granary as a possible on-campus EES location?

VII. Question: What on-campus relocation alternatives exist for FSH residents?
Answer: While there are a number of on-campus apartment complexes that have been considered as a destination for FSH residents. However, there are multiple issues with these locations for the FSH program: (a) lack of proximate parking; (b) proximity to undergraduate residents; (c) academic and affiliation issues caused by any re-purpose of college apartment inventory; and (d) LRDP bed space issues caused by re purpose of the apartments for FSH residents (for LRDP purposes, a current FSH unit counts as 1 LRDP bed space, while the same apartment could count as 4 LRDP beds for undergraduates who share rooms.

Additional Resident Comments
1. Can we look at other temporary (modular) housing units during a rebuild?
2. Location by the West Campus Entrance is very convenient; relocating to another campus location is likely to be less convenient for access to schools, work, shopping, etc.

VIII. Question: Our children are currently enrolled at Westlake School. If we were relocated to another off-campus facility, could that make our children ineligible to attend Westlake School?
Answer: We have foreseen this as an important consideration, but we do not know the school district enrollment eligibility policy. This can be explored further if necessary.

IX. Question: Our children are currently enrolled in on-campus childcare (EES). Is EES planning to move of campus as well?
Answer: We understand that the EES program is in high use from FSH residents. This being said, we are only doing exploratory research at this time and we have not yet started evaluating the feasibility of relocating EES off campus.

CHES is a syndicated housing system, where all student housing revenue and expenses are shared. EES is not part of the syndicated housing system, so this adds an additional layer of complexity for planning.

Additional Resident Comments:
1. Childcare facilities will be needed on-campus to allow parents easy access to their children while at school
2. Can you consider the Granary as a possible on-campus EES location?
X. Question: *We are concerned that FSH program rents will increase if we move off-campus. How will FSH program rents be affected?*

Answer: First, CHES intends to maintain the FSH program. One of the components of the existing program is providing rents that are below market. If rents were allowed to be market-rate, FSH would no longer be a program.

Second, CHES is a syndicated housing system. There are currently over 8,600 students that contribute revenue to the syndicated housing system. Any costs associated with the renovation/redevelopment of FSH (inclusive of operational costs associated with lease subsidies) would require contribution from the syndicated housing system.

The current financial plans for the CHES syndicated housing system is to avoid years with “spikes” in rent increases, and rather, keep rental rate increases more in line with inflation increases (approximately 3% increases/year). Both the annual FSH rental rate increases and the student housing rental rate increases have been consistent with each other in recent years; they have averaged slightly less than 3%/year.

XI. Question: *What are the environmental standards for any redevelopment?*

Answer: Regental policy requires all new projects to meet or exceed LEED-Silver standards. There are also campus goals such as net zero energy that is likely to be incorporated. There would be an Environmental Review prior to any project construction.

The Meeting Ended at Approximately 7:10 p.m.
APPENDIX D

PRELIMINARY BUDGET FORECAST

Cost Models
- Meadow, Family Temporary
- Meadow Max
- Knoll, Family Permanent
- Knoll Max
- Forest

Utility Sketches
- Meadow Sewer Infrastructure
- Meadow Water Infrastructure
- Meadow Max Sewer Infrastructure
- Meadow Max Water Infrastructure
- Knoll Sewer Infrastructure
- Knoll Water Infrastructure
- Knoll Max Sewer Infrastructure
- Knoll Max Water Infrastructure
May 26, 2015
Octavio Gutierrez
Associate Principal
Solomon, Cordwell Buenz
255 California Street
San Francisco, CA 94111

UCSC West Housing
Program Level Cost Model

Dear Octavio,

In accordance with your instructions we enclose our program level cost models for the proposed options for the West Campus housing development.

The cost models include five development options:

- Meadow, Family temp
- Meadow, Max
- Knoll, Family Permanent
- Knoll, Max
- Forest

The two Meadow options include development of the open area immediately south of Kresge, and retention of the childcare and Family Student housing in their current condition west of Heller Drive. Budget projections for each option include variations that limit bed counts to meet debt capacity.

The Meadow options also include development of the existing service road from the existing Family Student housing entrance at Heller Drive. The two Knoll options redevelop the Childcare and Family Student housing sites, including demolition of the existing buildings. The Forest option redevelops the Kresge site and builds new housing on the open area immediately south of Kresge. The Forest option also retains the childcare and Family Student housing in their current condition.

All five options connect to existing utilities without upgrades to existing capacity.

The cost models include escalation to construction completion in June 2020 (2022 for Kresge Redevelopment).

We would be pleased to discuss these estimates with you at your convenience.

Sincerely,

Peter Morris
Principal
Program Cost Summary

<table>
<thead>
<tr>
<th></th>
<th>Meadow Family temp</th>
<th>Meadow Max</th>
<th>Knoll Family Perm</th>
<th>Knoll Max</th>
<th>Forest</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$k</td>
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<tr>
<td>CIB 0: Site Clearance</td>
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Project Cost Assumptions

Project Delivery is scheduled for June 2020. In the Forest Option, Kresge Redevelopment is scheduled for a later phase to be completed in 2022.

Core Escalation is budgeted at 5% per annum to mid-point of construction

The budget includes consideration of the cost of construction at UCSC. There are several elements that are distinctive for UCSC, which tend to lead to higher overall construction prices than might normally be expected to prevail either in the Bay Area to the north, or the immediate Santa Cruz urban market. These include:

- Economy of scale. The project is of such a size that it is likely to exceed the capacity of the Santa Cruz local residential construction market. This means that it will have to attract bidders and workers from much further afield, and cannot take advantage of the lower local costs.

- Regional Market demand. The broader regional markets, both in the Bay Area and the Central Valley are both experiencing strong demand for construction, such that competitive pricing is muted. This is of particular concern for Santa Cruz, since it means it must attract bidders away from strong local markets to come into the Santa Cruz market.

- Geology and Topography. The geology and topography of the campus means that the project must address both slopes and challenging ground conditions. The budget includes a contingency for the potential encounter of geologic and environmental hazards, including rock spires/outcrops and sink holes.

- Climate and Marine Environment. The climate and marine environment place a high demand on building materials. The high humidity accelerates mold and mildew growth, and the salt air leads to corrosion and rust. As a result, materials, particularly exterior materials have to be higher quality than found in student residential buildings in less hostile environments.
Building Assumptions

Structure
- Foundations: conventional spread footings or mat foundations as required by geology
- Wood or light steel structural frame

Envelope
- Fully compliant with 2013 Title 24 and meets UC Sustainable Practices Policy
- Enhanced envelope including cladding of wood siding or cement plaster

Interior Construction
- Standard student housing

Mechanical/Electrical/Plumbing
- Fully compliant with 2013 Title 24 and meets UC Sustainable Practices Policy
- Individually metered apartments, common metering for suites
- Individual heat pumps for apartments, central system for suites
- Fully sprinklered

Energy consumption
- Overall energy consumption assumed to be set at 30kBtu/SF/year which represents compliance with code and UC policy. The costs include on-site renewable energy generation to offset the 30kBtu consumption.

Site Assumptions: The budget includes a contingency for the potential encounter of geologic and environmental hazards, including rock spires/outcrops and sink holes, endangered species (plant or animal), and hazardous materials in site or existing buildings.
The payback period for the PV systems will depend on several factors, including cost of installation, tariff structure and anticipated energy escalation.

For cost, the baseline estimate is $3.47 per kWh/year. That is an investment of $3.47 to save 1 kWh per year. Using a real discount rate of 2%, and an investment life of 50 years, the $3.47 equates to an annualized cost of $0.11/kWh. Over a 25 year life, the annualized cost is $0.18. For a typical energy cost in the range of $0.12 - $0.15 per kWh, this would indicate that the payback break-even point falls between 25 and 50 years.

**Cost Sensitivity**

**Installation Cost**

The cost is based on installation as a stand-alone ground mounted array, fixed azimuth. This is moderately more expensive than roof mounted, since it requires greater support framing. It is less expensive than using the system as a shade structure for walkways or parking. The amount of area required will not fit on the available roofs, and so roof mounted systems would need to be supplemented with ground mounted arrays. It is unlikely that the installed cost could be significantly reduced to improve the payback period. Using the system for shade structures would increase the cost and therefore the payback period, but may have indirect benefits for the campus.

**Energy Cost – Peak Charges**

A significant advantage of PV is that it delivers power at peak periods, and so can reduce the overall tariff structure by reducing peak demand. Unless this system is independently metered, however, it is unlikely that this installation will, on its own, be sufficient to affect the UCSC tariff structure. As part of a larger strategy, it could, however, have an impact. This is difficult to assess without exact pricing history for the campus. In general, it is likely to reduce overall energy costs by $0.01 to $0.03 per kWh, and so effectively reduce the payback period closer to 25 years.

**Energy Cost - Escalation**

The Real discount rate is based on energy prices escalating in line with core inflation. Current forecasts from the Energy Information Administration (EIA) project lower electricity price escalation, which would have the effect of increasing the real discount rate, and pushing the payback period longer, closer to the 50 year mark. On the other hand, if energy prices increase at a rate greater than core inflation, as is predicted by some, mostly in response to long term carbon charging and shifts in power generation, the payback period will be reduced.
### UC Santa Cruz West Campus Housing

**Programing Cost Model**

<table>
<thead>
<tr>
<th>Land Acquisition</th>
<th>12 Acres</th>
<th>FAR: 0.607</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Purchase</td>
<td>Not Required</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Not Required</td>
<td></td>
</tr>
<tr>
<td>Predevelopment</td>
<td>Not Required</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Land Cost Contingency</td>
<td>10%</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Land Costs</strong></td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

#### Construction Cost

**Site Clearance**

<table>
<thead>
<tr>
<th>SF</th>
<th>$</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Park Lot</td>
<td>35,000</td>
</tr>
<tr>
<td></td>
<td>Site Improvements: Core</td>
<td>336,600</td>
</tr>
<tr>
<td></td>
<td>Roads, Bridges and Infrastructure</td>
<td>58,000</td>
</tr>
<tr>
<td></td>
<td>Open Space &amp; Misc. Areas</td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>529,600</td>
<td>$175,000</td>
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**Site Development**

<table>
<thead>
<tr>
<th>SF</th>
<th>$</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Park Lot</td>
<td>35,000</td>
</tr>
<tr>
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<td>336,600</td>
</tr>
<tr>
<td></td>
<td>Roads, Bridges and Infrastructure</td>
<td>58,000</td>
</tr>
<tr>
<td></td>
<td>Open Space &amp; Misc. Areas</td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>529,600</td>
<td>$8,867,150</td>
</tr>
</tbody>
</table>

**Infrastructure**

- Cooling Infrastructure (All heating provided locally) $0
- Water & Sewer Infrastructure $6,582,500
- Power and ePower $5,547,500
- Gas infrastructure $440,000
- IT & Telecom Infrastructure $800,000
- Renewable Power systems $0
- Storm Water Management $2,408,356

**Buildings**

<table>
<thead>
<tr>
<th>SF</th>
<th>$147,683,056</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Housing &amp; Student Dining 321,680</td>
</tr>
<tr>
<td></td>
<td>Net Zero Energy 321,680</td>
</tr>
<tr>
<td></td>
<td>Enhanced Envelope Detailing</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>321,680</td>
</tr>
<tr>
<td>General Conditions</td>
<td>12%</td>
</tr>
<tr>
<td>Design Contingency</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Total Construction Costs (2015)** $181,945,525

- Escalation to start of phase 1 $40,028,015
- Escalation to start of phase 2 $0
- Escalation to start of phase 3 $0

**Total Construction Costs, Year of construction** $221,973,540
### Soft Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect &amp; Engineering</td>
<td>9.0%</td>
<td>$19,977,619</td>
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<tr>
<td>Tests, Inspections, Surveys</td>
<td>2.5%</td>
<td>$5,549,338</td>
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<tr>
<td>Building Permits &amp; Approvals</td>
<td>1.0%</td>
<td>$2,219,735</td>
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<tr>
<td>UCSC Project Management</td>
<td>5.0%</td>
<td>$11,098,677</td>
</tr>
<tr>
<td>Impact Fees/Community Costs/Mitigations</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Offsite traffic mitigations</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Connection Fees/Utility Charges</td>
<td>2.0%</td>
<td>$4,439,471</td>
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<tr>
<td>Stormwater discharge permits</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Builder's Risk Insurance</td>
<td>0.5%</td>
<td>$1,109,868</td>
</tr>
<tr>
<td>Construction Contingency</td>
<td>$221,973,540</td>
<td>5.0%</td>
</tr>
<tr>
<td>Moving in/start-up Costs</td>
<td>Excluded - CHES Revenue Funded</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>$55,493,385</td>
</tr>
</tbody>
</table>

**Total Soft Costs**

$55,493,385

**Total Project Costs**

$277,466,925

**Total Project Costs - Excluding Financing**

$277,466,925
### Land Acquisition

<table>
<thead>
<tr>
<th>Land Acquisition</th>
<th>12 Acres</th>
<th>FAR:</th>
<th>0.582</th>
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</thead>
<tbody>
<tr>
<td>Land Purchase</td>
<td>Not Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Not Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predevelopment</td>
<td>Not Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$0</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Cost Contingency</td>
<td>10%</td>
<td><strong>$0</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Land Costs</strong></td>
<td><strong>$0</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Construction Cost

#### Site Clearance

<table>
<thead>
<tr>
<th>Site Clearane</th>
<th>529,600 SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots</td>
<td>35,000 SF</td>
</tr>
<tr>
<td>Site Improvements: Core</td>
<td>336,600 SF</td>
</tr>
<tr>
<td>Roads, Bridges and Infrastructure</td>
<td>58,000 SF</td>
</tr>
<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>100,000 SF</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$1,683,000</strong></td>
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</tbody>
</table>

#### Site Development

<table>
<thead>
<tr>
<th>Site Development</th>
<th>529,600 SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots</td>
<td>35,000 SF</td>
</tr>
<tr>
<td>Site Improvements: Core</td>
<td>336,600 SF</td>
</tr>
<tr>
<td>Roads, Bridges and Infrastructure</td>
<td>58,000 SF</td>
</tr>
<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>100,000 SF</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$9,909,450</strong></td>
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</table>

### Infrastructure

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Infrastructure (All heating provided locally)</td>
<td>$0</td>
</tr>
<tr>
<td>Water &amp; Sewer Infrastructure</td>
<td>$9,819,650</td>
</tr>
<tr>
<td>Power and ePower</td>
<td>$5,547,500</td>
</tr>
<tr>
<td>Gas infrastructure</td>
<td>$440,000</td>
</tr>
<tr>
<td>IT &amp; Telecom Infrastructure</td>
<td>$800,000</td>
</tr>
<tr>
<td>Renewable Power systems</td>
<td>$0</td>
</tr>
<tr>
<td>Storm Water Management</td>
<td>$2,408,356</td>
</tr>
</tbody>
</table>

### Buildings

<table>
<thead>
<tr>
<th>Buildings</th>
<th>308,160 GSF</th>
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</thead>
<tbody>
<tr>
<td>Housing &amp; Student Dining</td>
<td>308,160 GSF</td>
</tr>
<tr>
<td>Net Zero Energy</td>
<td></td>
</tr>
<tr>
<td>Enhanced Envelope Detailing</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$96,952,000</strong></td>
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</table>

### Escalation to Start of Phase 1

<table>
<thead>
<tr>
<th>Escalation to Phase 1</th>
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</tr>
</thead>
<tbody>
<tr>
<td>$39,933,599</td>
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</tbody>
</table>

### Total Construction Costs (2015)

**$181,516,358**
## UC Santa Cruz West Campus Housing

### Full Project - All Years

#### Current Cost - CCCI 6,069 (March 2015)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Fees/Community Costs/Mitigations</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Offsite traffic mitigations</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Connection Fees/Utility Charges</td>
<td>$4,428,999</td>
<td>2.0%</td>
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<tr>
<td>Stormwater discharge permits</td>
<td>TBD</td>
<td></td>
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<tr>
<td>Builder's Risk Insurance</td>
<td>$1,107,250</td>
<td>0.5%</td>
</tr>
<tr>
<td>Construction Contingency</td>
<td>$221,449,957</td>
<td>5.0%</td>
</tr>
<tr>
<td>Moving in/start-up Costs</td>
<td>Excluded - CHES Revenue Funded</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$55,362,489</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Soft Costs</strong></td>
<td><strong>$55,362,489</strong></td>
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</table>

**Total Project Costs**: $276,812,446

**Total Project Costs - Excluding Financing**: $276,812,446
### Programing Cost Model

**KNOLL FAMILY PERMANENT**

<table>
<thead>
<tr>
<th><strong>Land Acquisition</strong></th>
<th>17 Acres</th>
<th><strong>FAR:</strong> 0.398</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>Not Required</td>
<td></td>
</tr>
<tr>
<td><strong>Predevelopment</strong></td>
<td>Not Required</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Land Cost Contingency</strong></td>
<td>10%</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Land Costs</strong></td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

### Construction Cost

<table>
<thead>
<tr>
<th><strong>Site Clearance</strong></th>
<th>725,200 SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots</td>
<td>40,000 SF</td>
</tr>
<tr>
<td>$5.00</td>
<td>$200,000</td>
</tr>
<tr>
<td>Site Improvements: Core</td>
<td>585,200 SF</td>
</tr>
<tr>
<td>$20.00</td>
<td>$11,704,000</td>
</tr>
<tr>
<td>Roads, Bridges and Infrastructure</td>
<td>- SF</td>
</tr>
<tr>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>100,000 SF</td>
</tr>
<tr>
<td>$5.00</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Site Development</strong></th>
<th>1,158,400 SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots</td>
<td>40,000 SF</td>
</tr>
<tr>
<td>$8.35</td>
<td>$334,000</td>
</tr>
<tr>
<td>Site Improvements: Core</td>
<td>505,200 SF</td>
</tr>
<tr>
<td>$20.74</td>
<td>$10,479,300</td>
</tr>
<tr>
<td>Roads, Bridges and Infrastructure</td>
<td>28,000 SF</td>
</tr>
<tr>
<td>$26.40</td>
<td>$739,300</td>
</tr>
<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>585,200 SF</td>
</tr>
<tr>
<td>$5.25</td>
<td>$3,072,300</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th><strong>Infrastructure</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Infrastructure (All heating provided locally)</td>
<td>$0</td>
</tr>
<tr>
<td>Water &amp; Sewer Infrastructure</td>
<td>$6,632,500</td>
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<tr>
<td>Power and ePower</td>
<td>$1,900,000</td>
</tr>
<tr>
<td>Gas infrastructure</td>
<td>$320,000</td>
</tr>
<tr>
<td>IT &amp; Telecom Infrastructure</td>
<td>$800,000</td>
</tr>
<tr>
<td>Renewable Power systems</td>
<td>$0</td>
</tr>
<tr>
<td>Storm Water Management</td>
<td>$2,339,936</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Buildings</strong></th>
<th>288,800 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing &amp; Student Dining</td>
<td>288,800 GSF</td>
</tr>
<tr>
<td>$314.73</td>
<td>$90,894,000</td>
</tr>
<tr>
<td>Net Zero Energy</td>
<td>$9,025,000</td>
</tr>
<tr>
<td>Enhanced Envelope Detailing</td>
<td>$6,498,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$145,438,336</td>
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<tr>
<td><strong>General Conditions</strong></td>
<td>12%</td>
</tr>
<tr>
<td><strong>Design Contingency</strong></td>
<td>10%</td>
</tr>
<tr>
<td><strong>Escalation to start of phase 1</strong></td>
<td>$32,055,992</td>
</tr>
<tr>
<td><strong>Escalation to start of phase 2</strong></td>
<td>$9,405,344</td>
</tr>
<tr>
<td><strong>Escalation to start of phase 3</strong></td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Total Construction Costs (2015)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>$179,180,030</td>
</tr>
<tr>
<td><strong>Escalation to start of phase 1</strong></td>
<td>$32,055,992</td>
</tr>
<tr>
<td><strong>Escalation to start of phase 2</strong></td>
<td>$9,405,344</td>
</tr>
<tr>
<td><strong>Escalation to start of phase 3</strong></td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Total Construction Costs, Year of construction</strong></th>
<th>$220,641,366</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soft Costs</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Architect &amp; Engineering</td>
<td>9.0%</td>
</tr>
<tr>
<td>Tests, Inspections, Surveys</td>
<td>2.5%</td>
</tr>
<tr>
<td>Building Permits &amp; Approvals</td>
<td>1.0%</td>
</tr>
<tr>
<td>UCSC Project Management</td>
<td>5.0%</td>
</tr>
<tr>
<td>Impact Fees/Community Costs/Mitigations</td>
<td>TBD</td>
</tr>
<tr>
<td>Offsite traffic mitigations</td>
<td>TBD</td>
</tr>
<tr>
<td>Connection Fees/Utility Charges</td>
<td>2.0%</td>
</tr>
<tr>
<td>Stormwater discharge permits</td>
<td>TBD</td>
</tr>
<tr>
<td>Builder's Risk Insurance</td>
<td>0.5%</td>
</tr>
<tr>
<td>Construction Contingency</td>
<td>$220,641,366</td>
</tr>
<tr>
<td>Moving in/start-up Costs</td>
<td>Excluded - CHES Revenue Funded</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total Soft Costs**

$55,160,341

**Total Project Costs**

$275,801,707

**Total Project Costs - Excluding Financing**

$275,801,707
## UC Santa Cruz West Campus Housing

**Programing Cost Model**
- Full Project - All Years
- Knoll Max option

**Land Acquisition**
- 17 Acres
- FAR: 0.413

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Purchase</td>
<td>Not Required</td>
</tr>
<tr>
<td>Environmental</td>
<td>Not Required</td>
</tr>
<tr>
<td>Predevelopment</td>
<td>Not Required</td>
</tr>
</tbody>
</table>

| Subtotal                                 | $0    |
| Land Cost Contingency                    | 10% $0|

| Total Land Costs                         | $0    |

**Construction Cost**

### Site Clearance

<table>
<thead>
<tr>
<th>Item</th>
<th>SF</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots</td>
<td>40,000</td>
<td>$5.00 $200,000</td>
</tr>
<tr>
<td>Site Improvements: Core</td>
<td>585,200</td>
<td>$20.00 $11,704,000</td>
</tr>
<tr>
<td>Roads, Bridges and Infrastructure</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>100,000</td>
<td>$5.00 $500,000</td>
</tr>
</tbody>
</table>

| Subtotal                                 | $725,200 |

### Site Development

<table>
<thead>
<tr>
<th>Item</th>
<th>SF</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lots</td>
<td>40,000</td>
<td>$8.35 $334,000</td>
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<tr>
<td>Site Improvements: Core</td>
<td>505,200</td>
<td>$20.93 $10,572,500</td>
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<tr>
<td>Roads, Bridges and Infrastructure</td>
<td>28,000</td>
<td>$26.40 $739,300</td>
</tr>
<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>585,200</td>
<td>$5.25 $3,072,300</td>
</tr>
</tbody>
</table>

| Subtotal                                 | $1,158,400 |

### Infrastructure

- Cooling Infrastructure (All heating provided locally) $0
- Water & Sewer Infrastructure $6,677,500
- Power and ePower $1,900,000
- Gas infrastructure $320,000
- IT & Telecom Infrastructure $800,000
- Renewable Power systems $0
- Storm Water Management $2,339,936

| Subtotal                                 | $147,521,536 |

### Buildings

<table>
<thead>
<tr>
<th>Item</th>
<th>GSF</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing &amp; Student Dining</td>
<td>299,200</td>
<td>$308.42 $92,280,000</td>
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<tr>
<td>Net Zero Energy</td>
<td>299,200</td>
<td>$9,350,000</td>
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<td>Enhanced Envelope Detailing</td>
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<td>$6,732,000</td>
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| Subtotal                                 | $147,521,536 |

### General Conditions

<table>
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<th>Cost</th>
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<td>12% General Conditions</td>
<td>$17,702,584</td>
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<td>10% Design Contingency</td>
<td>$16,522,412</td>
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| Total Construction Costs (2015)           | $181,746,532 |

| Escalation to start of phase 1            | $39,984,237 |
| Escalation to start of phase 2            | $0         |
| Escalation to start of phase 3            | $0         |

| Total Construction Costs, Year of construction | $221,730,769 |
**UC Santa Cruz West Campus Housing**

**Programing Cost Model**

**Knoll Max option**

**Full Project - All Years**

**Current Cost - CCCI** 6,069 (March 2015)

**Total Project Costs** $277,163,461

**Total Project Costs - Excluding Financing** $277,163,461

### Soft Costs

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Amount</th>
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<tr>
<td>Architect &amp; Engineering</td>
<td>9.0%</td>
<td>$19,955,769</td>
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<tr>
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<td>2.5%</td>
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<td>TBD</td>
<td>$3,026,501</td>
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<td>TBD</td>
<td>$2,510,769</td>
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<tr>
<td>Connection Fees/Utility Charges</td>
<td>2.0%</td>
<td>$4,434,615</td>
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<td>Stormwater discharge permits</td>
<td>TBD</td>
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<td>Builder's Risk Insurance</td>
<td>0.5%</td>
<td>$1,108,654</td>
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<td>Construction Contingency</td>
<td>$221,730,769</td>
<td>5.0%</td>
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<tr>
<td>Moving in/start-up Costs</td>
<td>Excluded - CHES Revenue Funded</td>
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<tr>
<td><strong>Subtotal</strong></td>
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<td>$55,432,692</td>
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**Total Soft Costs** $55,432,692

**Total Project Costs - Excluding Financing** $277,163,461
## UC Santa Cruz West Campus Housing

### Full Project - All Years

<table>
<thead>
<tr>
<th>Programing Cost Model</th>
<th>Current Cost - CCCI</th>
<th>Total</th>
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<tbody>
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<td>Forest/Kresge option</td>
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**Land Acquisition**

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<tr>
<th>Acres</th>
<th>6</th>
<th>FAR:</th>
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<td>Land Purchase</td>
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<td>Environmental</td>
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<tr>
<td>Predevelopment</td>
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**Subtotal**

- Land Cost Contingency 10% $0

**Total Land Costs** $0

### Construction Cost

#### Site Clearance

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<thead>
<tr>
<th>SF</th>
<th>247,000</th>
<th>$0</th>
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<td>Parking Lots</td>
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<tr>
<td>Site Improvements: Core</td>
<td>197,000</td>
<td>$10.86</td>
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<td>Roads, Bridges and Infrastructure</td>
<td>-</td>
<td>$0</td>
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<td>Open Space &amp; Misc. Areas</td>
<td>50,000</td>
<td>$5.00</td>
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#### Site Development

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<tr>
<th>SF</th>
<th>170,000</th>
<th>$0</th>
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<td>Parking Lots</td>
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<td>Site Improvements: Core</td>
<td>120,000</td>
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<td>Roads, Bridges and Infrastructure</td>
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<td>$0</td>
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<tr>
<td>Open Space &amp; Misc. Areas</td>
<td>50,000</td>
<td>$162.78</td>
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#### Infrastructure

- Cooling Infrastructure (All heating provided locally) $0
- Water & Sewer Infrastructure $165,000
- Power and ePower $150,000
- Gas infrastructure $120,000
- IT & Telecom Infrastructure $240,000
- Renewable Power systems $0
- Storm Water Management $75,000

#### Buildings

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<tr>
<th>GSF</th>
<th>333,800</th>
<th>$321.96</th>
<th>$107,470,000</th>
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<tbody>
<tr>
<td>Housing &amp; Student Dining</td>
<td>333,800</td>
<td>$10,431,250</td>
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**Subtotal** $139,722,500

**General Conditions**

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<td>10%</td>
<td>$15,648,920</td>
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**Total Construction Costs (2015)** $172,138,120

**Escalation to start of phase 1** $20,426,522

**Escalation to start of phase 2** $28,555,107

**Escalation to start of phase 3** $0

**Total Construction Costs, Year of construction** $221,119,749
## UC Santa Cruz West Campus Housing

### Full Project - All Years

#### Current Cost - CCCI 6,069 (March 2015)

<table>
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<th>Item</th>
<th>Percentage</th>
<th>Total</th>
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<td>Connection Fees/Utility Charges</td>
<td>2.0%</td>
<td>$4,422,395</td>
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<td>Stormwater discharge permits</td>
<td>TBD</td>
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<td>Builder's Risk Insurance</td>
<td>0.5%</td>
<td>$1,105,599</td>
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<td>Construction Contingency</td>
<td>$221,119,749</td>
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<td>Moving in/start-up Costs</td>
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<td><strong>Subtotal</strong></td>
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<td>$55,279,937</td>
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<td><strong>Total Soft Costs</strong></td>
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<td>$55,279,937</td>
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| Total Project Costs                       |            | $276,399,686   |

| Total Project Costs - Excluding Financing |            | $276,399,686   |
STUDENT HOUSING WEST
MEADOW OPTION
SEWER INFRASTRUCTURE

Potential for existing parking to remain as overflow
Child Care/yard potential to stay, demolish apartments
Restore FSH to native landscape
STUDENT HOUSING WEST
MEADOW OPTION
WATER INFRASTRUCTURE

- UNDERGRADUATE APARTMENTS
- FAMILY STUDENT APARTMENTS
- GRAD/FAMILY APARTMENTS
- BUILDING AMENITIES
- CHILD CARE CENTER
- KRESGE GARDEN

EXISTING WATER LINE
PROPOSED WATER LINE

Potential for existing parking to remain as overflow
Child Care/yard potential to stay, demolish apartments
Restore FSH to native landscape
STUDENT HOUSING WEST
KNOLL-MAX OPTION
WATER INFRASTRUCTURE
APPENDIX E

CONTRIBUTORS & CHRONOLOGY

<table>
<thead>
<tr>
<th>ADVISORY COMMITTEE</th>
<th>UC SANTA CRUZ STAFF</th>
<th>SCB ARCHITECTS</th>
<th>MKTHINK</th>
<th>WALKER MACY</th>
<th>AECOM</th>
<th>DAB</th>
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<tr>
<td>Sarah Latham</td>
<td>Dean Fitch</td>
<td>Octavio Gutierrez</td>
<td>Allan Donnelly</td>
<td>Matthew Crampton</td>
<td>Michael Amodeo</td>
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<td>Sue Carter</td>
<td>Jolie Kerns</td>
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<td>Doug Macy</td>
<td>Peter Morris</td>
<td>Tito Patri</td>
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<td>John Barnes</td>
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<td>Peggy Delaney</td>
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<td>Richard Hughey</td>
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<td>Sean Keilen</td>
<td>Lacey Raak</td>
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<td>Sue Matthews</td>
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<td>Bruce Schumm</td>
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<td>Kaysi Wheeler</td>
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<td>Whitney De Vos</td>
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</tbody>
</table>

Vice Chancellor, Business and Administrative Services
Vice Chancellor, Planning and Budget
Associate Vice Chancellor and Campus Architect
Vice Provost and Dean of Undergraduate Education
Provost, Porter College & Associate Professor, Literature
Associate Vice Chancellor, Colleges, Housing, and Educational Services
College Administrative Officer, Kresge & Porter Colleges
Professor of Physics
Internal Vice Chair, Oakes College
Chair, Staff Advisory Board
Graduate Student Representative
Project Chronology

September
  September 22, 2014: Charge Letter from Campus Provost and EVC Allison Galloway

October
  October 21, 2014: Housing Planning Committee Meeting

November
  November 12, 2014: Housing Planning Committee Meeting
  November 18-19, 2014: Engagement Workshops #1

December
  December 9, 2014: Programming Session with CHES
  December 16, 2014: Housing Planning Committee Meeting

January
  January 6, 2015: Housing Planning Committee Meeting
  January 14, 2015: Design Advisory Board Presentation

February
  February 9, 2015: Housing Planning Committee Meeting
  February 10-11, 2015: Engagement Workshops #2

March
  March 9, 2015: Stakeholder Outreach – Kresge College students
  March 11, 2015: Design Advisory Board Presentation, Site Walk and Critique
  March 11, 2015: Site Walk for Housing Planning Committee and Design Advisory Board
  March 18, 2015: Housing Planning Committee Meeting

April
  April 7, 2015: Housing Planning Committee Meeting
  April 28, 2015: Housing Planning Committee Workshop – Budget Projection

May
  May 4, 2015: Council of Provosts Meeting
  May 11, 2015: Preferred Option Workshop
  May 12, 2015: Housing Planning Committee Workshop – Preferred Option
  May 19, 2015: Project Update to the Advisory Committee on Campus Planning and Stewardship
  May 21, 2015: Update to the Comprehensive Settlement Implementation Group (City of Santa Cruz / Santa Cruz Neighbors)
  May 26, 2015: Stakeholder Outreach – Family Student Housing and Graduate Students

June
  June 2, 2015: Housing Planning Committee Meeting – Final Housing Study Document
  June 16, 2015: Committee Recommendation to the Advisory Committee on Campus Planning and Stewardship
APPENDIX F

REFERENCES

2005 Long-Range Development Plan: lrdp.ucsc.edu


2014 Campus Housing Study: http://mediafiles.ucsc.edu/ppc/studies/StudentHousingMarketStudy.pdf

Colleges Housing and Educations Services: http://ches.ucsc.edu/

Advisory Committee on Campus Planning and Stewardship: http://cpevc.ucsc.edu/organization/committees/cps.pdf

Design Advisory Board: http://chancellor.ucsc.edu/committees/dab.pdf