DESIGN GUIDELINES FOR JACOBS HALL

Project Summary

The College of Engineering is proposing to construct Jacobs Hall, a 24,000 square foot advanced engineering research and academic facility. The building would provide space for design studios and laboratories; private and interactive workspaces; and student lounge and exhibit space on an approximately 9,000 square foot project site bordered by LeRoy Avenue, Ridge Road, Soda Hall and Etcheverry Hall. The building was previously described in the Northeast Quadrant Science and Safety Project (“NEQSS”) EIR (2001) as “Soda II”. One of the key issues to be addressed through design is the building’s relationship to the site and between institutional buildings to the south and residences to the north.

The project site is currently used as a volleyball court and slopes downward from east to west. It has several large trees along the perimeter, and trees and landscaping were key issues addressed in the project’s EIR.

UC Policy Guidance

General design guidance is provided within the 2020 LRDP, New Century Plan, the Physical Design Framework and Landscape Master Plan. The project is also subject to relevant mitigation measures prescribed in the 2020 LRDP EIR and NEQSS EIR. The UC Policy on Sustainable Practices requires that new buildings must meet minimum standard of LEED-NC Silver and outperform the provisions of the California Energy Code (Title 24) energy-efficiency standards by at least 20 percent.
Context

The project site is adjacent to a hillside residential neighborhood, much of which is built in the Bay Traditional and Arts & Crafts styles of architecture and covered in brown wood shingle, stucco and/or brick. Figure 2 identifies nearby buildings with City Landmark designations. Cloyne Court and the Allen Freeman House Allanoak are located at the same intersection as the new building.

Soda and Etcheverry Halls are two of the few non-residential buildings in the area. These buildings are modern cast concrete, glazed ceramic tile, or stucco. The Etcheverry/Soda Hall pedestrian path is a trellised walkway between the two buildings, abutting the project site, connecting Ridge Road and Hearst Avenue. Institutional buildings are focused on Hearst Avenue; however, the Tudor-style Goldman School and shingled Cloyne Court Co-op along Le Roy Avenue connect the style of the northern residential areas with the architecture of Blum Hall and Sutardja Dai Hall near Hearst and Le Roy Avenues.

Figure 2. City of Berkeley Historic Resource Map, 2010

Figure 3. Clockwise from upper left: (a) Cloyne Court Coop looking southeast at Le Roy Avenue and Ridge Road, (b) Allen Freeman House Allanoak (c) looking south on Le Roy Avenue. (d) looking east along Ridge Road, west of project site (e) Looking north on Le Roy Avenue towards the Goldman School.
Design Approach

The more diverse architectural context outside of the Campus Park is more resilient and receptive to new design goals and directions, and foremost among those goals is the architectural expression of sustainable design. However, the new building must be balanced with the need to respect and enhance the character, livability, cultural vitality of the city; enhance and complement surrounding buildings; integrate into the adjacent urban fabric; enhance the aesthetics and utility of the streetscape; and use massing, setbacks, articulation, roof form and materials to create an appropriate building. Vegetation and landscaping should be considered key design elements.

Form & Composition

The building should be designed to create a stronger visual link between University buildings and the surrounding neighborhood using Le Roy Avenue as an axis linking the site to the Mining Circle. The form and composition should balance the need to create a distinctive northern campus edge while reflecting that the neighborhood has a variety of massing and setbacks with substantial vegetation. The building should relate to the existing urban form and consider adjacent buildings to strengthen visual lines and create urban space.

The building form should be driven by the space needs of the new program. Consistent with the building program’s emphasis on collaborative design, the new building should relate to existing public space between Soda Hall, Etcheverry Hall and the project site. Where desirable, it should create areas for informal interaction and public space, such as the south side of the new building adjacent to Soda Hall and on the east side of the new building within the trellised walkway. Entries should be provided in these areas.

Figures 4a-d. From upper left. (a) view looking southwest from intersection of Le Roy and Ridge (b) view of existing Soda Hall terrace, looking west (c) view looking north from Le Roy and Hearst (d) looking south at trellised walkway from Ridge Road.
Height & Mass

The NEQSS study described Soda II as having a public plaza on its roof, which would be street level with Le Roy Avenue; however, this form is generally not desirable given the program needs of the new building. Thus, the building’s height should respond to program and occupant needs and be generally consistent with adjacent buildings. Natural light and windows are desired. If program necessitates a taller building, the building should consider below grade levels that connect with Soda and Etcheverry Halls to reduce the building height before proposing a taller structure. The City of Berkeley has established a 35’ (three-story) maximum height in this R-3H zone.

In context, Soda and Etcheverry Halls and Cloyne Court Co-op are similar in height along Le Roy Avenue (approx. four stories). As shown in Figure 4b, Etcheverry Hall has three stories above the Le Roy Avenue grade.

Setback

The City of Berkeley provides guidance for projects located in this area: 15’ front/rear yard setbacks, 4-10’ side/street setbacks, 8-16’ building separation. The northern setback should relate to Etcheverry and Cloyne Coop. The southern and western setbacks should relate to the Soda Hall and trellised walkway between the buildings to provide usable public space. In general, landscape should be used to minimize the mass of the building, rather than deeper setbacks on upper floors.

Public Entrance

Front entrance and ground floor public space should be oriented to the sidewalk and street. The entry should be distinctive, inviting, well-lit and activate the public realm. The primary building entrance should be from Le Roy Avenue. The building should be accessible from both Etcheverry and Soda Halls via internal connections or internal courtyards to activate internal walkways. Entry from the trellis walkway should be axial with the existing Etcheverry Hall doors.

Figure 5. Generalized pedestrian flow.
Open Space

The building should create usable public open space between the different buildings and the street. The existing lounge space and terrace on the fourth floor of Soda Hall should be considered. The design should be sensitive not to treat Ridge Road as the building’s rear.

Pedestrian areas should be surfaced with alternative media to improve visual quality and distinction as a route or gathering place. Permeable surfaces that minimize storm-water run-off are preferred. The design could consider creating a central public entry way to the three buildings by orienting the entrance onto an expansion of the plaza at the fourth floor of Soda Hall and a new entrance to Etcheverry Hall.

Orientation

The siting of the building should take advantage of solar angles and wind direction to reduce energy consumption, provide natural light and ventilation, as well as opportunities for thermal massing to the south and the west exposures. The building should consider passive and active solar energy devices as elements integral to the building architecture, including green roofs and walls. The design should maximize sun exposure on open space. While these guidelines suggest that public entry be from the western side, the other façades should be interesting and inviting to pedestrians on both Ridge Road and Le Roy Avenue.

Landscape

The landscaping should be considered a key design element to screen and transition the building to the neighborhood and use varying height levels keeping with the hillside neighborhood. Redwoods and other typical vegetation should be used in the landscaping, and be consistent with the Landscape Master Plan. There are up to four larger existing redwood trees on the site perimeter that screen Soda Hall from the street. If existing trees can be preserved with a smaller building footprint and larger setback, landscape may be used to create a street edge; however, if trees are preserved, they should be younger trees that can adapt more easily to the new building. Additionally, the design should include landscape treatments within the wide sidewalk on Ridge Road.

Façade and Roof

The building façade and windows should complement the neighboring buildings, but harmonize the lower scale building along Ridge Road with the institutional buildings.

Materials

The diversity of building materials found in surrounding the neighborhood invites some creativity in treatments; however, the new building’s materials should be respectful of the Bay Traditional design and architectural elements. Materials shall convey an image of quality and durability. Materials that complement and harmonize with adjacent buildings are more important that use of green tile suggested in the NEQSS EIR. Visual interest should be created by building articulation. Reflectivity should be discouraged.

Lighting

Exterior lighting should use lenses and hoods and be focused and directional to provide for circulation and security while reducing the incidence of spillover into adjacent residences and the atmosphere. The building should consider ways to illuminate the existing trellis building the buildings, as well as pedestrian-scale lighting along Le Roy Avenue.

Services

If needed, the building should consolidate loading and service access, both internally and with Etcheverry and Soda Halls. Service uses should occur off the alley to the west of Etcheverry Hall. While appropriate balance and compatibility with both fenestration and rooflines are important, of equal importance is the need for appropriately enclosed and functioning mechanical equipment.
Applicable CEQA Mitigation Measures

LRDP 4.2-3(b) Reflective materials on the exterior elevations of proposed buildings would be restricted. Night lighting surrounding proposed projects would be shielded, to minimize intrusion and spill over to neighboring areas.

LRDP 4.3-3(b) Additions to or expansions of existing structures would be designed to complement the existing architectural character of the buildings. The style and character of existing construction would be respected in the design of building additions. Features and elements to be taken into account during the design phase would include, but not be limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color, and quality of building materials, and the landscape setting.

LRDP 4.4-1(a) The preservation of existing specimen trees, shrubs, and grass areas would be considered as a priority for retention in the final design of proposed projects. If specimen species trees must be removed, they will be replaced with the same species tree on the project site or at appropriate locations elsewhere on the Campus, if possible.

LRDP 4.5-8(c) The Campus would include in its design guidelines for new buildings a recommendation that building entrances be located as near to street corners as feasible to discourage mid-block pedestrian crossings, and that building design considers right distance relationships between pedestrians and vehicles.

SODA 4.1-3 As part of the final design of the project, the architects will be directed to reduce any remaining land use compatibility impacts of the project to the extent feasible. In the final design of the project, design elements will be considered by the architects to further reduce impacts on adjacent land uses. These will include retention of privacy for neighboring residential uses, design of the building to reduce noise, light, glare and similar design considerations. Mitigation measures for other impacts (such as visual quality and aesthetics, circulation and parking, and noise) will also serve to reduce further any remaining land use impacts.

SODA 4.2-1(b) Street trees which are part of the project design will serve to mitigate the visual impact on the streetscape along LeRoy Avenue, Hearst Avenue, and Ridge Road created by the proposed project. Displaced redwoods will be replaced on the site with redwoods or similar tree types wherever feasible. A mixture of ornamental and native landscaping will be incorporated into the landscaping plan to break up the continuity of the streetscape along LeRoy Avenue and provide a link to the traditional landscaping of the surrounding residential neighborhood. Redwood, oak, or evergreen trees will be used as much as possible to provide varying height levels and make the landscaping look more natural, in keeping with the hillside neighborhood.

SODA 4.2-3(a) The exterior surfaces of the building would be selected to be compatible with architectural features and colors of exterior materials used for existing structures on adjacent sites. Green tile with brown accents has been proposed to tie the project to the dark brown shingle buildings and the surrounding neighborhood.

SODA 4.2-3(b) The landscaping and architectural style of the proposed College of Engineering addition will be designed specifically to create a stronger visual link between the University buildings and the surrounding neighborhood. Features and elements to be taken into account during the design phase would include, but not be limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, and the texture, color, and quality of the building materials. Redwoods and other vegetation typical of the hillside neighborhood will be used in the landscaping and the building will be designed imaginatively to incorporate as many of the existing trees as possible and to provide a transition in the architectural style and building material between the Computer Science Building (Phase I) and the residences to the north and east.

SODA 4.2-4 Exterior lighting would utilize lenses and hoods and be focused and directional to provide for circulation and security while reducing the incidence of spillover into adjacent residences.

SODA 4.3-3(a) Vegetation would be used to soften the appearance of the new architectural elements associated with the project to minimize impacts on the neighborhood.

SODA 4.3-3(b) All architectural elements will be further reviewed during the final design phase for their compatibility with the detailing of adjacent historic structures, and will be designed to complement and enhance the existing neighborhood to the degree feasible.

SODA 4.5-1(d) The design of the College of Engineering additions will be required to incorporate the existing redwoods. Landscaping of the roof top plaza will incorporate plantings consistent with the existing streetscape of Le Roy Avenue as much as possible. Street plantings utilizing typical trees of the area will be used wherever possible to provide transition between the landscaping on Campus and the surrounding neighborhood, especially along the northern and eastern boundaries of the site.

SODA 4.8-1(c) The project would be constructed with adequate drainage facilities to collect storm water runoff from roofs, sidewalks, roads, and other hard surfaces, and from underground drainage systems. Storm water would be delivered to existing storm drainage systems of adequate capacity to accommodate the flow.

SODA 4.8-4(c) Landscaped areas of development sites would be designed to absorb runoff from roofs and walkways. The Campus Landscape Architect would ensure that open or porous paving systems would be considered in project designs, to minimize impervious surfaces and absorb runoff. Development that encroaches on creek channels would be prohibited, where feasible.

SODA 4.10-9(b) Landscaped areas of the project will be designed to absorb runoff from roofs and walkways. The Campus Landscape Architect will ensure that open or porous paving alternatives will be used to the maximum extent possible to allow infiltration of surface runoff. Impervious surfaces such as walkways, plazas, and other hardscapes will be minimized and roof subdrain systems and/or infiltration trenches will be considered.
REFERENCES
City of Berkeley Municipal Code: http://codepublishing.com/ca/berkeley/
UC Berkeley, New Century Plan, Design Guidelines:
http://www.cp.berkeley.edu/ncp/guidelines/core.html
UC Berkeley, 2020 Long Range Development Plan and EIR:
http://www.cp.berkeley.edu/LRDP_2020.htm
University of California, Policy on Sustainable Practices:
http://www.ucop.edu/facil/sustain/documents/policy_sustain_prac.pdf
UC Berkeley, Physical Design Framework:
http://smcp.berkeley.edu/framework/designframework.pdf
Helfand, Harvey. The Campus Guide to the University of California, 2002.
UC Berkeley, Northeast Quadrant Science and Safety Projects EIR.