7 Design Standards and Guidelines

7.1 INTENT

The Design Standards and Guidelines ("Standards and Guidelines") for the East Campus Health Sciences (ECHS) Neighborhood are defined and structured as a framework for future development that supports the key planning principles established for the ECHS neighborhood.

The Standards and Guidelines are intended to establish, reinforce, and augment the concept of the ECHS Neighborhood as a pedestrian-oriented system.

7.2 USING THE GUIDELINES

In the planning and design of ECHS sites, the Standards and Guidelines should be the basis for establishing project criteria in the beginning of the project design process, and frequently revisited for compliance with the intent throughout the development and documentation of the design.

Standards are presented as prescriptive requirements for each project in ECHS. They are considered mandatory.

Guidelines are presented below as descriptive recommendations that guide the quality of the outcome of each project. While not requirements, the Guidelines will be utilized as the basis for evaluation of the planning and design of projects in the Neighborhood.

The Standards and Guidelines are presented in a manner intended to achieve the key planning principles while providing the opportunity for the creative use of site and building materials and the enhancement of the spatial experience and orientation of the pedestrian in the ECHS is also strongly encouraged in the Guidelines.

The Standards and Guidelines are organized into two levels: Neighborhood Standards and Guidelines, and Neighborhood Overlay Zone Requirements. All projects will be subject to both levels of review.
Neighborhood Standards and Guidelines

Neighborhood Standards and Guidelines are addressed in seven general elements:

- The Pedestrian Network
- The Open Space Elements
- Landscape Design
- Architectural Design
- Circulation and Parking
- Infrastructure
7.3 Pedestrian Network

Planning and design features will be required to enhance pedestrian experience in the ECHS neighborhood. The pedestrian network is formed by the Health Sciences Walk East and West, a central east-west spine consisting of an 80-foot wide zone that traverses the length of the entire Neighborhood, generally in parallel with the east-west orientation of the Canyons. Figure 7.1 illustrates the key components of the pedestrian network, which includes the Health Sciences Walk and the Green Corridors. All areas of the neighborhood pedestrian network will be designed to be handicapped accessible.

7.3.1 Health Sciences Walk West

In the Medical Center Zone, the Walk passes through the Thornton Hospital atrium, which provides visual linkage from east to west, and pedestrian access to hospital inpatient and diagnostic and treatment departments. The extension of the walk westward from the existing atrium may take the form of either interior or exterior concourses but maintain the continuity of the Walk. The west end of the West Walk is visually anchored by the dramatic cable-stayed tower of the Gilman Bridge and the West Campus in the background. A new hospital entry is located along the southern edge of this leg of the Walk.

The typical view of the Walk shown in Figure 7.2 establishes the spatial organization within the 80-foot wide envelope. The scale of the Walk is that of an intimate urban neighborhood street. Buildings facing the Walk are a minimum of 40-feet apart in a few important locations, but generally are 60-feet apart, or more to provide adequate daylight. Colonnade and arcade elements may encroach into the 80-foot envelope a maximum of 20-feet on each side. These dimensions apply to both exterior and interior (enclosed) portions of the Walk.

Buildings along the Walk edge are required to provide an arcade or colonnade along their length. These features will also provide covered pedestrian spaces as transition elements to important building entries and spatial transitions from open space to building interior spaces (Figure 7.3).
7.3.2 Health Sciences Walk East
As the Walk exits the Thornton Hospital landmark entry lantern, it passes the Medical Center Plaza. A freestanding colonnade structure around the entry and along the north elevation of the Perlman Ambulatory Care Center will provide weather cover, and create a distinct feature on the Walk defining the edge of the Plaza (Figure 7.4).

Further east, the Walk changes direction as it passes between two important facilities, the Medical Education Center (MEC) and the Ambulatory Care Center (ACC-2) East.

Twin colonnades that serve to visually focus the space, and “funnel” the pedestrian into the plaza beyond, highlight the transition to the Clinical/Research Zones (Figure 7.5).

Once in the plaza, the visual experience is framed by South Meadow views through the bridge/portal linking ACC-2 with the Cancer Center (CC), and opens to the north into the spacious Campus Point Plaza. An important focal point such as a sculpture or a water feature should be located at the axial center as a landmark for orientation in all four directions. Figure 7.6 suggests location and scale.

As one walks east, the CC colonnade frames the south edge of the Walk until it opens onto the CC entry plaza, an open space between the CC and Medical Center Drive East. The northeast corner of the CC building provides a strong visual landmark and important destination both within the plaza and in alignment with the west terminus of Health Sciences Drive. Figure 7.7 shows the plan detail.

7.3.3 The Walk Along Health Sciences Drive
The Walk crosses Medical Center Drive East and ascends as a terraced concourse connecting several levels of the East Parking Structure CR-6 (Figure 7.8). The Walk continues eastward as a 5-foot wide sidewalk in a 20-foot wide landscaped zone along the north edge of the street to its terminus at Regents Road.
7.3.4 **Green Corridors**

Smaller-scale secondary path systems intersect the Health Sciences Walk in many important locations, providing a true pedestrian “street” network on the site. Each of these “Green Corridors” is linked to building entries and terminates in an open space vista.

The Green Corridors are generally 40-feet in width, and are considered to be outdoor corridors with low-scale elements, and occasionally colonnades in locations where pedestrian movement requires weather protection, and where building entries are located. The Green Corridors may also take the form of interior spaces or exterior courtyards with a vista at one end. If the Green Corridor is a required fire lane planting and site landscaping must conform to fire department regulations.
7.3.5 Meadow Walks and Meander

A third important feature in the network is a series of informal pathways that incorporate the concept of the UCSD Campus Meander into the Neighborhood edge pathways. Neighborhood paths originate at the Walk, traverse the rustic landscape of the North and South Meadows, and connect to the South Canyon Rim Campus Meander.

Figure 7.9 locates the Neighborhood paths and the Campus Meander. The character of the meander is suggested in Figure 7.10.
7.3.6 Building and Roadway Sidewalks
Building sidewalks complete the pedestrian network from the Health Sciences Walk, Green Corridors, and the Meanders to all other locations. Walks generally are 5-feet in width, unless access for vehicles is required. Building sidewalks include secondary connections between pedestrian network and building entries, access walks, and utility walks. These sidewalks should be constructed of poured-in-place concrete with varying accents of concrete pavers depending upon the prominence of the sidewalk. Roadway walks follow roadway alignment. The typical relationship of the sidewalk to roadway is shown in Figure 7.35.

7.4 The Open Space Elements
The ECHS plan interweaves the pedestrian network with open spaces. The open space elements include the North and South Meadows, plazas, and the neighborhood edges (Figure 7.11).

7.4.1 The North and South Meadows
The North and South Meadows extend the rustic landscape of the existing canyons surrounding the Neighborhood into its center, and link it to the Health Sciences Walk. The Meadows are to remain undeveloped except for the pedestrian paths and roadways that traverse them.
7.4.2 The I-5 Edge
The western edge of the Neighborhood bordering the I-5 corridor is envisaged as a landscaped buffer that extends across Medical Center Drive West to the Medical Center Zone buildings. The buffer will provide visual screening to the patient care and clinical areas in the expansion area of the Medical Center Zone. Figure 7.12 illustrates a typical section through the I-5 edge buffer and roadway.

The Gilman Bridge approach extends into the buffer area. A vista to the Bridge from the Health Sciences Walk is an important orienting feature. The buffer should not be planted with trees within this alignment to allow views to the Bridge as illustrated in Figure 7.13.

7.4.3 Campus Point Plaza
The central ceremonial public space of the ECHS Neighborhood is located at the terminus of Campus Point Drive at Medical Center Drive. The Plaza’s south perimeter intersects the Health Sciences Walk East and visually extends into the South Meadow through the portal created by the pedestrian bridge or covered ground level passage linking the Cancer Center and the Ambulatory Care Center building groups.
Figure 7.14 illustrates the relationship of the Campus Point Plaza, Campus Point Drive, the Health Sciences Walk East, and the South Meadow. The centerline of Campus Point Plaza is aligned with that of a realigned terminus of Campus Point Drive, and the portal between the ACC and the Cancer Center buildings. The realignment of Campus Point Drive is addressed in Section 7.7.2.

7.4.4 The Southeast Plaza

In the Clinical/Research Zone, the Southeast Plaza forms the open space linkage to the Science Research Park (SRP) to the east and south. The Plaza is envisioned as the eastern terminus of Medical Center Drive South, a pedestrian connection to the SRP, and an urban edge that contrasts with the rustic landscape of the South Meadow as it extends into the SRP. The SRP’s North Walk terminates in the Plaza which is substantially hardscaped with well-defined edges. The Plaza engages the typical landscaped street edge and walks of the ECHS Neighborhood. The plaza is illustrated in Figure 7.15.

7.4.5 The Transit Plaza

The Transit Plaza is the central open space for the southern part of the Medical Center Zone, and collects vehicular activities of the Light Rail Transit (LRT) Station, shuttle buses, passenger vehicles, and the pedestrian network to one location. The plaza is a terraced open space descending from the western leg of the Health Sciences Walk to the passenger and shuttle bus drop-off area. The Plaza will provide drop-off curb space for 10 to 15 small shuttle buses of up to 25 passengers, automobile and passenger van drop-off curb space for up to 15 vehicles, all adjacent to the LRT station. The Transit Plaza will not provide “park-and-ride” commuter parking facilities, or bus transit facilities. The Plaza will also provide an entry feature for pedestrian traffic from the West Campus and LRT passengers. The LRT Station is one level below the drop-off area. Figures 7.16 and 7.17 indicate the Transit Plaza in plan and section. Possible shuttle bus stops are identified in Section 7.7.6.
7.5 Landscape Design Guidelines

7.5.1 Landscape Design Standards & Philosophy
The design of the landscape in the East Campus Health Sciences Neighborhood follows the principles established previously for the east campus area. In the late 1980s plans prepared by Skidmore Owings and Merrill and P.O.D (Process Oriented Design) for the east campus envisioned a unique neighborhood “island” surrounded by natural and preserved open space. While the west campus is dominated by existing groves of eucalyptus trees and coastal sage scrub, the east campus is less developed horticulturally with exception of the canyon areas. Within these canyon zones the natural riparian habitat is a visual connection to the west campus setting and the regional landscape.

The east campus upper mesa on which the medical complex has grown was predominately impacted by past uses including agricultural and military installation activities. The transition of landscapes and their character is incorporated into the landscape design concept for the East Campus Health Sciences Neighborhood. The open space and canyon areas are integrated into the existing and future development through a series of “bands of vegetation” and view corridors, which continually tie the neighborhood’s developed area to the natural environment. This integration of built and natural spaces provides for a restorative and therapeutic landscape, which is the basis for the design concept.

Figure 7.17  Transit Plaza section
While the periphery of the east campus medical complex consists of natural edges, the interior space is dominated by a series of pedestrian corridors, nodes or plazas and two bands of naturalized vegetation at the north and south canyons. It is intended that the landscape concept integrate the built and the natural environment through planting layout and species selection and that it strengthens the campus identity, unifies the neighborhood, promotes wayfinding, and creates a therapeutic resource for the visitors, staff, and students.

7.5.2 Landscape Design

In the original development of the Thornton Hospital, Perlman Center and the Shiley Eye Center, Wimmer Yamada and Caughey provided the initial landscape master plan, the landscape design, and the current plant palette. Further development of this neighborhood will build upon the original landscape design concept established with the initial development of the health sciences area.

The overall emphasis of the East Campus Health Sciences is the development of a therapeutic and restorative landscape that complements and accentuates the proposed land uses, while integrating the overall development into the existing landscape. Through the use of plant material, lighting, texture, sound and scent, the design of nodes and plazas should allow for intimate pockets of space for patients and staff to gather and find retreat from the hospital setting. Views into and out of the site should be emphasized and accentuated to also help establish a sense of place and to allow patients and staff views from the interior of buildings.

The character of the existing landscape is based upon a simple massing of trees, shrubs, and ground covers to provide clean lines and visual interest against the backdrop of the architecture and the existing landscape. The palette within the interior corridors and plazas is more ornamental while the perimeter plantings quickly transition to naturalized species.

The landscape design emphasizes a drought tolerant palette, which conserves water. Plants should be grouped in masses to encourage movement through the pedestrian corridors.
and to develop intimate spaces. The plant selections and design elements should emphasize zones or spaces, reinforcing a method of wayfinding.

With the proposed reconfiguration of the health sciences neighborhood there are a number of existing landscape areas that will be impacted. It is the intent of these guidelines to first attempt to work around the mature landscapes, if possible, in siting new buildings. When this is not feasible, the viable trees should be relocated to new landscape installation areas.

The neighborhood plan places new buildings along a defined structure of landscaped corridors, nodes, plazas and perimeter connections. The landscape within these areas should respond both to the landscape design concept as well as to the architecture of new buildings and provide continuity to the existing structures. The scale of the landscape should appropriately respond to pedestrian circulation, the building interface, and vehicular thoroughfares.

The scale of the landscape in pedestrian areas should address clear visibility of destinations and promote wayfinding. Where appropriate, the creation of retreat areas or nodes for rest and relaxation should be provided along pedestrian routes. The opportunity to orient these areas to views of the open space and natural environment should further enhance the quality of the journey through the neighborhood and reinforce the landscape concept. Enhancing views from the medical buildings into areas of open space and nodes emphasizes the restorative and therapeutic qualities of nature.

The proposed plant palette [Section 7.5.4] supports the existing landscape, defines space and landscape character, and attributes to programmed activities. This palette is meant to be a guideline. Plant material should be selected appropriate to the location and available space. The use of turfgrass is limited to areas where both visual enhancement and access is a priority. Future development should incorporate the characteristics and nature of the listed plant material into the design.
7.5.3 Specific Design Features
The following are specific descriptions of site design elements, which will affect future development of the East Campus Health Sciences neighborhood. The categories of design elements include Health Sciences Walk, Green Corridors, Neighborhood Edges, North Meadow, South Meadow, Roadways, Plant Palette (see 7.5.4), Site Furnishings (see 7.5.6), Hardscape Materials (see 7.5.5), Environmental Art (see 7.5.8), Maintenance (see 7.5.9), and Safety (see 7.5.10).

Specific selection of plant materials for building and site landscape should take into consideration the neighborhood’s color palette. Refer to the “Master Exterior Palette East Campus Health Sciences” document available at UCSD Facilities Design and Construction (FD&C).

7.5.3.1 Health Sciences Walk
The landscape design along the Health Sciences Walk is focused on the linear alignment of the main east-west pedes-
trian corridor. The design should emphasize pedestrian access and flow, and allow for small intimate spaces for patient, staff, and faculty use. The planting should be formal in nature with strong lines of trees and masses of shrubs to define the corridor and promote wayfinding. Where the corridor passes through plazas, or buildings, emphasis should be placed on developing focal points, view corridors, and allowing open areas of light between the buildings. The plant material should create areas of shade with dappled light. The walkway will be lined with smaller character semi-deciduous shade trees along both sides or single sided where building canopies occur. The variety of the trees should be consistent with the existing varieties, which occur at the front facade of Thornton Hospital.

The spacing and alignment of the trees should be mature canopy to canopy with parallel placement and setback from the adjacent walk. The ground plane will consist of rectangular ground cover panels and raised seat walls with shrub massings where fire access is not a concern.

The seat wall planters should be constructed of cast in place integral color concrete with details matching the existing seating nodes at Thornton Hospital, where appropriate. Their surface and sides can integrate the healing garden concept through the use of mosaics of medicinal plants or embedded designs or patterns. The placement of metal bench seating within the seat wall planters provide optional seating arrangements and materials. See Figure 7.19, Seat Wall Planters. The style and color of the benches should be consistent with the proposed neighborhood color palette.

Shrubs in the seat wall planters should be massed to create plant groups and to define small intimate spaces. Using large masses of shrubs and a limited plant palette enhances and simplifies the texture, color, and forms of the corridor.

Signage within the Health Sciences Walk should be coordinated with the landscape elements to allow for clear visual display and placement.
7.5.3.2 Green Corridors

The landscape design for the Green Corridors should integrate the adjacent open space areas within the folds of the buildings protecting and emphasizing views outward to the canyons. The landscape should be more natural in form and composition. Planting design should be informal with meandering shrub masses and ground covers. Trees should be planted in clusters to allow filtered sunlight. Near the termini of the canyons, incorporate naturalized plant material to integrate the built and the naturalized environment. Develop nodes at the entrances and between buildings, where appropriate to building use, creating mini plazas and patios for people to gather and rest. The opportunity to access the Green Corridors from the buildings will enhance the access to the adjacent open space areas.

The trees in this area should not block the views outward. The tree species suggested are more open in character, evergreen, and smaller in mature growth. The shrubs and ground covers are more natural in composition and selection allowing pedestrian sight lines toward adjacent canyons and open space. The locations and spacings of the ground plane plantings must take into the consideration the increased shade factor and limited widths of the corridors. Access paths for maintenance and limited pedestrian use are encouraged. See Figure 7.20 Green Corridors.

In some locations Green Corridors will need to accommodate fire access lanes. In these cases planting and site landscaping will need to conform to fire department regulations.

7.5.3.3 Neighborhood Edges

The landscape design for the neighborhood edges bordering an open space should transition from ornamental landscape located within the core area, to the perimeter characterized by naturalized plantings. The main criteria within this region is to preserve views to the north, west and south canyon areas. The plant selection and layout of the landscape should promote the view corridors as defined and provide visual continuity with the skyline.
Appropriate trees are evergreen, larger scale species, which are more vertical in form and frame both the views to the open space areas and the architecture of the adjacent buildings. The landscape design should be informal. The ground plane should consist of larger scale massings to blend with the existing open space character. The species should blend indigenous and limited ornamental varieties to provide a seamless pattern into the adjacent canyons.

7.5.3.4 **Natural Edge – I-5 Corridor**

The landscape of the west edge adjacent to the open space along I-5 is consistent with the north and south canyon rim landscape character and plant palette. The character is informal with clusters of trees and shrubs in informal groupings. Spaces between the plant groupings allow for view corridors into and out of the neighborhood. Views to the proposed Gilman Bridge connecting the UCSD east and west campuses should be protected and enhanced. See Figure 7.13. The landscape along the entrance to the bridge should contain plantings, which frame the views to east and west and provide a foreground to the natural landscape. The pedestrian access to the bridge is considered a heavy-use corridor. Special consideration should be given to pedestrian views and access.

Medical Center Drive West landscape should be consistent with the design quality and character of the I-5 corridor and UCSD West Campus. The east side of the roadway may incorporate more ornamental plantings as the landscape moves closer to the buildings.

The trees suggested for this area should be medium height with limited canopy widths to reduce the impact of the view to the bridge. The spacing and layout of the trees should be open and informal. The landscape palette should be selected to address the heavy traffic and minimize maintenance. Signage should be consistent with campus signage and should promote clear visibility yet provide a natural anchor of the signage to the natural surroundings and west campus.
7.5.3.5 South Canyon Edge

The south canyon edge is located south of Medical Center Drive South and the Cancer Center site. The existing landscape is a blend of native and naturalized species where natural drainage flows create a dense riparian habitat. Views to the South Canyon are an important amenity for the proposed landscape concept. The future addition of a light rail transit corridor along the rim of the canyon will present challenges to the landscape. As discussed in other sections of this document the intent is to lower the rail corridor below the road grade at the rim of the canyon. In this location the view corridors will be impacted less by the electrical line supports and the trolley itself. Trees such as eucalyptus and other naturalized varieties should be planted up hill and down hill of the corridor to integrate and buffer the track, trolley and overhead wires into the surrounding landscape.

The existing meander path along the canyon rim should be maintained to allow pedestrian access to Mesa Housing and the Science Research Park. New planting along the path should incorporate naturalized species in informal planting groups. Planting should follow the guidelines in the document “A Grand Park and a Campus Meander for UCSD,” Dec. 1977. The decomposed granite or asphalt path should also transition into poured concrete and paver paths used in the plazas.

7.5.3.6 Roadways and Loop Road

The landscape design along the existing and proposed roadways addresses the loop road separately from the neighborhood primary entry roadways. The landscape along the loop road edges the natural open space, and is intended to complement the cross section of the open space. The existing landscape is informal and composed of naturalized plants. Trees, shrubs and ground cover massing should be placed at perpendicular alignment with the roadway. In this manner the road is traveling “through” the more natural, rustic landscape, and the natural quality of the existing landscape is emphasized along the roadways.
As discussed under the roadway alignment section, the proposed separation of the loop road lanes at two locations reinforces integration of natural landscapes into the neighborhood core. When the loop road is flanked by buildings on both sides, the landscape composition is more linear in design and respects the access points to the building entries and parking. Medians within these road sections are encouraged to soften the roadway and provide separation from opposing traffic.

The trees within these road sections are limited to evergreen varieties, taller and medium in scale, to allow clear visibility for vehicular traffic. The placement of trees should allow wider spacing to provide views to adjacent buildings. The ground plan within the right of way should be low growing ground cover to maintain visual access. The sidewalks should be set parallel to the street section. Where feasible, a minimum four-foot setback for landscape should be incorporated between the travel way and sidewalk. Trees at building and parking entries should be a unique variety with flowering or visually different characteristics to identify key access.

Health Sciences Drive, which provides an important new entry from Regents Road to the Health Sciences Neighborhood also serves as a visual connector and access to other campus developments it passes through. The cross section of this roadway will border campus parking to the north, and the Science Research Park facilities to the south. This roadway will become a key visual entry boulevard to the Health Sciences Neighborhood.

The landscape of this roadway should promote a clear and formal layout, which provides separation from the parking lot to the north, and visual access to the Science Research Park to the south.

Landscape along the north side of the roadway has been designed in conjunction with the recently completed parking lot. The tree species should be extended into the Health Sciences Neighborhood, but with spacing and placement to promote and reinforce a landscape design. Closer tree spacing and parallel placement will achieve this intent. The ground plane
should be composed with plant materials, which start from lower profile planting to taller hedge rows to screen the parking. The south side right-of-way should use the lower profile plant species, but with cutoff heights at three feet to allow visibility into the Science Research Park.

7.5.3.7 North Meadow
The landscape of the North Meadow is an extension of preserved open space within the UCSD "Park" lands, and should also relate to the South Meadow plant palette. The intent of this landscape area is enhancement of the natural character and habitat. Since Medical Center Drive North traverses the North Meadow, plant material along this roadway should be consistent with the meadow planting to provide continuity and appear as an extension of the Park. The North Meadow is flanked by the Medical Center Plaza and Medical Education Center, which provides the opportunity for planting areas to "step down" at the buildings and create a natural, rustic edge. Where possible, plant material in the North Meadow should be used to screen the parking decks under the Medical Center Plaza, while providing views to the Thornton Hospital entry for clear wayfinding. Trees should be limited to species, which are indigenous to this region and are located in patterns typical to their natural growth characteristics. Shrub and ground cover massings should be selected from naturalized species.

7.5.3.8 South Meadow
The South Meadow is located between the Perlman ACC expansion site and the Cancer Center site. The landscape of the South Meadow is an extension of the existing south canyon character. This area should be landscaped with plant material similar to that found in the existing canyon. Pathways in the South Meadow should provide a north/south pedestrian connection to link Health Sciences Walk East to Medical Center Drive South. Pathways should be 8' wide of asphalt or stabilized decomposed granite. The north edge of the South Meadow borders on Health Sciences Walk East, which provides opportunities to view the meadow from this major pedestrian route. In addition to providing a visual amenity for the patient environment, the South Meadow also provides the necessary location for underground utility
lines, which may affect placement of large plant material, such as trees. Trees should be limited to species, which are indigenous to this region and are located in patterns typical to their natural growth characteristics. Shrub and ground cover massings should be selected from naturalized species.

7.5.3.9 Campus Point Plaza
Campus Point Plaza is a major visual entry to the neighborhood at the intersection of Campus Point Drive and Medical Center Drive North. This plaza is visible from vehicles entering the medical center at a key decision-making intersection and should assist with wayfinding, through use of landscape, signage and lighting. The views from this plaza looking south extend across the Health Sciences Walk East to the South Meadow and existing South Canyon visible beyond the neighborhood. Given this opportunity to create a north/south view corridor that extends the width of the neighborhood, trees should be located to frame the view. This plaza should provide exterior gathering spaces for the Medical Education Center with seating areas and places for people to interact, hold classes or discussions. The plaza also provides frontage for Shiley Eye Center, Ratner Center, and a future addition to the Shiley facility. This could include interpretive gardens for site impaired, focusing on scent and texture of plants. A design feature at the intersection of the Campus Point Plaza and Health Sciences Walk East should be considered, and possibly include special paving, seating areas, a fountain or sculpture that would be appropriate and not impede fire access. This plaza may also incorporate interpretive gardens linking the landscape to the medical sciences and education, with plant material historically used in medicine.

7.5.3.10 Transit Plaza
The landscape design within the Transit Plaza and future hospital's west entry should be more urban in character and compliment the intended heavy use by pedestrian traffic. The connection to the west campus from this area promotes the more typical campus layout in plaza use similar to the Price Center plaza on the west campus. At the Transit Plaza, the interaction of medical students, faculty, staff, and visitors will require outdoor seating areas, rest nodes and access to the adjacent trolley station and other shuttle services. It is
anticipated that patients will also enter the campus from this location and will require clear and visible wayfinding to the Health Sciences Walk connection. At the Transit Plaza, the grade change between the south hospital entry and Medical Center Drive South may need to be addressed with ramps, stairs or walls, such as raised planters/seat walls.

The trees located in this plaza are designed to be composed as a series of Bosque plantings in a formal grid pattern. The suggested character of the trees proposed for this area are broad canopy deciduous trees, which will allow more solar access during the winter months. The areas beneath the trees should be composed of seating elements and paving, which promote outdoor uses. The adjacent landscape against the buildings should transition into the planting design along the Health Sciences Walk. The perimeter trees should be smaller in scale, evergreen and with medium canopy widths.

7.5.3.11 Southeast Plaza

The Southeast Plaza connects the Health Sciences and Science Research Park (SRP) neighborhoods and is at the east terminus of Medical Center Drive South. While small in scale, this plaza will act as a meeting place between the two neighborhoods. The suggested plant palette in this area should focus on species and varieties that create an urban edge in contrast with the rustic landscape of the existing canyon to the west and the canyon extension into the SRP to the south. This plaza should be predominantly hardscape paving with trees in tree grates to provide a continuous walking surface between the neighborhoods. The Southeast Plaza should engage the Medical Center Drive East street edge, the North Walk at the SRP, as well as the future building entry to the north. Grade changes should be gradual to encourage ramps and planted slopes rather than stairs to transition between the two neighborhoods.

7.5.3.12 Healing Gardens

Healing gardens should be considered at appropriate locations in the Health Sciences Neighborhood. Aspects of the gardens can be incorporated throughout the main pedestrian corridors and plazas. Many of the medical facilities include patients and
visitors that would benefit from beautiful, contemplative environments to enhance their visit. The gardens could provide patients and their families peaceful and intimate spaces to gather or walk through. These gardens can also provide a visual amenity from upper building levels. Healing gardens can also be integral to building design, such as rooftop gardens and atriums.

The healing and therapeutic gardens should be designed at various scales. They should be used as a means to reduce the institutional setting and incorporate nature into the corridors and plazas, as well as into the buildings. Views into the gardens from ground floor windows and views of the trees from second story windows can provide a way to bring nature into the buildings. This approach to design should be emphasized throughout the neighborhood and not limited to select areas.

There may be opportunities in the neighborhood for other types of gardens, not intended as healing gardens. Interpretive gardens use plant materials that can educate the visitor of medicinal qualities of plants historically and currently used in medical practice. Interpretive or medicinal gardens should only be located where appropriate. Signage and botanical nameplates may be used to describe plant origins and how they are used in science and research. An outdoor area for small group discussions or classes would also promote the educational benefits of this type of garden. Paving materials, such as embedded designs or patterns, could display relevant medical research, for example DNA strands and biological profiles.

7.5.4 Proposed Plant Palette
The intent of the plant palette is to create a guideline for future design. Landscape architects should use the palette as a starting point and develop a specific palette for the particular building and site being developed. The importance is to maintain site character and design intent, and to use the recommended plant characteristics to develop a site-specific plant palette. The plant palette is intended to be flexible and does not imply all trees indicated in one category will be used in one location.
**Tree Listing**

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<tr>
<th>Tree Name</th>
<th>Health Sciences Walk</th>
<th>Green Corridor</th>
<th>North Meadow</th>
<th>South Meadow</th>
<th>Transit Plaza</th>
<th>Parking Lot</th>
<th>I-5 Edge</th>
<th>South Canyon Edge</th>
<th>Health Sciences Drive</th>
<th>Loop Road</th>
<th>Campus Point Plaza</th>
<th>Southeast Plaza</th>
<th>Healing Gardens</th>
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*Table 7.1* Proposed plant palette
### TREES

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<tr>
<th>Species</th>
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<tbody>
<tr>
<td>Cupaniopsis anacardioides, Carrot Wood</td>
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</tr>
<tr>
<td>Eucalyptus deglupta, Mindanao Gum</td>
<td>15 gal</td>
</tr>
<tr>
<td>Eucalyptus cladocalyx, Sugar Gum</td>
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<tr>
<td>Eucalyptus ficifolia, Red Flowering Gum</td>
<td>15 gal</td>
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<tr>
<td>Eucalyptus torquata, Coral Gum</td>
<td>15 gal</td>
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<tr>
<td>Eucalyptus torwood, Torwood Gum</td>
<td>15 gal</td>
</tr>
<tr>
<td>Jacaranda mimosifolia, Jacaranda</td>
<td>24&quot; box</td>
</tr>
<tr>
<td>Melaleuca quinquenervia, Cajeput</td>
<td>&quot;</td>
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<tr>
<td>Olea europea, Olive</td>
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<td>Pinus canariensis, Canary Island Pine</td>
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<td>Pinus torreyana, Torrey Pine</td>
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<td>Platanus racemosa, California Sycamore</td>
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<td>Pyrus kawakamii, Evergreen Pear</td>
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<td>Quercus agrifolia, Oak</td>
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</tr>
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<td>Tipuana tipu, Tipu Tree</td>
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<td>Tristania conferta, Brisbane Box</td>
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<td>Ulmus parvifolia, Chinese Evergreen Elm</td>
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### SHRUBS

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<tr>
<th>Species</th>
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<tr>
<td>Acacia ‘Desert Carpet’, Acacia</td>
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<td>Acacia redolens</td>
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<tr>
<td>Aloe marlothii</td>
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<tr>
<td>Arbutus unedo, Strawberry Tree</td>
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<tr>
<td>Baccharis pilularis ‘Centennial’, Coyote Bush</td>
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<tr>
<td>Bougainvillea ‘La Jolla’</td>
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<tr>
<td>Ceanothus ‘Concha’, California lilac</td>
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<tr>
<td>Coprosma kirkii, Creeping Coprosma</td>
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<tr>
<td>Dicksonia antarctica, Tasmanian Tree Fern</td>
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<tr>
<td>Echium fastuosum, Pride of Madeira</td>
<td>5 gal</td>
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<tr>
<td>Encelia californica, California Encelia</td>
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<tr>
<td>Eucalyptus forrestiana, Fuchsia Eucalyptus</td>
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<tr>
<td>Heteromeles arbutifolia, Toyon, California Holly</td>
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<tr>
<td>Leptospermum scoparium, New Zealand Tea Tree</td>
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<tr>
<td>Melaleuca nesohila, Pink Melaleuca</td>
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<tr>
<td>Nandina domestica ‘Gulf Stream’, Heavenly Bamboo</td>
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<tr>
<td>Phormium tenax ‘bronze’, New Zealand Flax</td>
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<td>Pittosporum ‘wheeleri’</td>
<td>&quot;</td>
</tr>
<tr>
<td>Pittosporum tobira ‘variegata’</td>
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</tbody>
</table>
SHRUBS (CONTINUED)

Rhapiolepis indica 'Clara', India Hawthorne 5 gal
Rhus integrifolia, Lemonade Berry
Ribes speciosum fuchsia, Flowering Gooseberry
Rosmarinus officinalis, Rosemary
Sambucus, Elderberry
Xylosma congestum 'compacta'

GROUND COVERS

Agapanthus africanus, Lily of the Nile 1 gal
Ceanothus griseus 'horizontalis', Carmel Creeper
Gazania splendens
Hemerocallis spp., Daylily
Lantana montevidensis 'gold mound', Lantana
Lantana montevidensis 'purple', Lantana
Lantana 'spreading sunset', Lantana
Myoporum parvifolium
Salvia greggi, Autumn Sage
Salvia leucophylla, Purple Sage
Trachelospermum jasminoides, Star Jasmine

OTHER

Bark Mulch Min. 3" depth
Hydroseed Mix with Shrubs as specified
Hydroseed Mix with Trees as specified
Turf Limit use to areas of informal seating and access
Grasscrete, Turfblock Limit use to access and fire lanes
7.5.5 Proposed Hardscape Materials

1. Paving materials and colors
Create interest in the ground plane with the use of a variety of paving materials and colors. Colors and materials should follow the guidelines in the “Master Exterior Palette East Campus Health Sciences” document available at FD&C. Paving in patient environments should be selected that does not create a glare. Specific pedestrian walks and plazas can be defined by the use of paving materials and help the wayfinding for visitors and patients. Paving variations can also help define a transition between specific areas of the campus. Keep all paving patterns and materials to a pedestrian scale which is appropriate to the adjacent land use.

2. Cast walls, stairs and ramps
All pedestrian access must adhere to handicap accessible design standards. Design layout and placement as well as material color and texture can add interest and accent to the site design. Concrete seat walls can become the backdrop for art features, or mosaics, adding to the quality of the environment.

3. Fencing
Fencing color and style (decorative and functional) should remain consistent with the architecture and the neighborhood color palette. Decorative screens or fences may be provided to secure outdoor patient environments. Fencing can provide a means of wayfinding with its style and color, help screen utilitarian aspects of buildings and the site, direct access through the site and create a backdrop for the planting design. Fencing should not interfere with views into and out of the pedestrian corridors and open spaces.

4. Overhead structures & trellis arbors
Overhead structures and trellises can distinguish specific sites within the campus. Consideration should be given to maintain views, design structures that complement the architecture and that help define and shade outdoor space. Style and colors should remain consistent with the overall neighborhood color palette and site design concepts.
5. Vehicular enhanced paving areas
Accentuate the nodes and transitions between land uses and at pedestrian crossings throughout the campus with paving patterns and colors. This can help the traveler locate themselves on the campus, as well as alert drivers of pedestrian crossings.

6. Water features
The sound of water in the landscape is an integral part of the healing landscape. With consideration for water conservation, and safety, use and design of water features should be allocated to areas of contemplation within or near the health facilities, or in focal points in plazas and along Health Sciences Walk.

7.5.6 Site Furnishings
The existing facility has an established family of site furnishings, which may be continued with new development. Changes in the style and selection of the elements will be based on availability, level of maintenance and relevance to uses anticipated with new development. All elements should be coordinated within the neighborhood design concept and specific site design, such as:

1. Seating, including benches, tables and chairs
2. Trash, recycling and ash urn containers
3. Light bollards, up lighting and accent lighting, and street light fixtures
4. Planter containers
5. Bicycle racks
6. Drinking fountains
7. Kiosks and newspaper racks
8. Signage monuments, interpretive signage and related wayfinding fixtures

7.5.7 Landscape Interface with Architecture
New buildings and adjacent urban spaces should be designed to continue the fabric of the landscape including plantings and hardscape elements. The new landscape should also screen and buffer those areas where the structures are more utilitarian in function and do not offer pleasing views. The entrances to new buildings should offer a landscape setting
that clearly defines the location of the entry and promotes the particular building's purpose. Views from the buildings into the landscape should be encouraged and maintained to enforce the restorative and therapeutic qualities of nature.

7.5.8 **Environmental Art**
The reputation of UCSD and public art displays has a long and successful history in the local region. The Stuart Collection is a premiere model of how a college campus can promote thought, emotion, and ideas through the use of environmental art. The opportunity for the expression of art in the landscape should be encouraged for the East Campus Health Sciences neighborhood. This can be accomplished with sculpture, and details in the site elements, such as fountains, paving and seat walls, as well as other interpretive art installations.

7.5.9 **Maintenance Guidelines**
These guidelines strive to maintain the landscape character of the UCSD East Campus Health Sciences Neighborhood, as it is now.

A high level of effort should be given to maintain the new facilities and landscape in a manner that promotes the importance of the land uses and the reputation of a high caliber research and health care facility.

The east campus uses reclaimed water and planting design around buildings should take into consideration the fluctuations in the salinity of the water supply. Use of pesticides should be discouraged in patient environments. Also care and consideration should be given to existing tree plantings. Building and facility locations should take into consideration conservation of mature vegetation. Where appropriate, relate existing trees to new planting areas.

7.5.10 **Safety**
Consideration should be given to ensure the safety of all people who visit or work in the neighborhood. Plant selection and placement should take into consideration views and safety concerns for pedestrians and vehicular traffic. Site lines into plazas and walkways should be well lit and accessible by police and emergency vehicles.
Specific designs proposing landscape screening around parking structures will require coordination with a landscape architect and security consultant to ensure that security issues are properly considered.

7.6 Architectural Design Standards and Guidelines

7.6.1 Building Design Philosophy
The design of buildings in the ECHS follows the principles established for the Neighborhood concept:

Strengthen the Neighborhood identity to create a visually richer “sense of place”
Participate and relate to other buildings visually without necessarily adopting existing form and materials of other buildings. Visual richness of form, materials, and color is encouraged.

Integrate the rustic landscape to balance and ground the “place” in its canyon-mesa context
Buildings should integrate with the site and landscape context as “emerging out of the site,” rather than imposed upon it. Hardscape, planters, and other architectural elements should be used to enhance this integration.

Provide the Neighborhood with a sense of unity by reinforcing the pedestrian experience
Buildings should be designed as an integral part of the Neighborhood pedestrian experience. The “place” that they create and define is a highly important design element.

7.6.2 Siting
Buildings may be sited in any location within the setback requirements in Section 7.6.3 below. In addition, the following recommendations are encouraged:

- Encourage both foreground views and background vistas to the Meadow areas and views onto the Health Sciences Walk, Green Corridors, and other open spaces from all buildings, as suggested in Figure 7.26.
• Building orientation should generally follow the grid established by the Health Sciences Walk and Green Corridors to reinforce the edges of the pedestrian network. Building frontages on Meadows edges, however, are encouraged to alter the orientation to promote a more informal and diffused edge.

• Access to sunlight is of strong importance in the integration of the landscape and the built environment. Sunlight should be maximized in all exterior spaces by the careful modeling of roof forms, building floor setbacks, and through composition of the building program components to minimize large expanses of shaded ground plane. Daylight is especially important in Ambulatory Care and Medical Center Zones where care for patients occurs.

7.6.3 Building Envelope

A. Building Setback Standards
The ECHS Neighborhood building setbacks are established by the perimeters of the Health Sciences Walk, the Green Corridors, Meadow edges, and the roadway systems in the Neighborhood. These project site boundaries provide the necessary landscaped open space, regulatory separations, and visual and spatial control of the environment. Setbacks established for the Neighborhood are indicated in Figure 7.21.

Health Sciences Walk
All buildings facing the Health Sciences Walk will maintain a minimum 20-foot setback from the centerline of the Walk, this includes the colonnade elements of those buildings, and certain other important design features of the building discussed in Sections 7.6.6 and 7.6.7. Figure 7.22 illustrates the minimum setback along the Health Sciences Walk, Figure 7.23 illustrates the maximum setback along Health Sciences Walk.

The minimum 20 foot setback is maintained for the entire length of the building along the Walk edge.
Figure 7.21

- 25-foot Setback Medical Center Drive
- 60-foot Setback Campus Point Drive
- 20-foot Minimum Setback from center line of Health Sciences Walk
- 40-foot Green Corridor Minimum
Campus Point Drive
The existing minimum 60-foot setback from Campus Point Drive curb will be maintained. No encroachments into the setback are permitted.

Medical Center Drive
A minimum 25-foot setback from the curb of the roadway to the building is required for all building elevations along the Medical Center Drive loop. Encroachments for building entry features such as canopies, porte cocheres, or overhangs providing weather cover may be permitted at the discretion of the University.

Health Sciences Drive
A minimum 25-foot setback from the curb of the roadway to the building is required for all building elevations along Health Sciences Drive. Encroachments for building entry features such as canopies or overhangs providing weather cover may be permitted at the discretion of the University.

North and South Meadow Edges
Refer to Figures 7.24 and 7.25 for required building setback “cone” in the Meadows. The intent of the “cone” is to allow building elements to step away along the descending elevations, enhancing views into the open space and encouraging articulation of building facades and wings along the Meadow edges, as diagramed in 7.26.

Buildings may encroach into the “cone” for no more than 20 percent of the overall length of the elevation. Encroachment depth must be less than 20-feet. Buildings may have cantilevered elements that overhang into the Meadow “cone,” but are also limited to the above dimensional constraints.
B. Building Height Standards

The height of buildings in the ECHS Neighborhood is a product of several factors: building function, location in the Neighborhood and Overlay Zone, and adjacency to the Health Sciences Walk. Refer to Table 7.2.

In general, the intent of the Plan is to maintain a 60-foot height limit along the Health Sciences Walk to allow afternoon sun to fall into the Walk. The actual height of each building may vary depending upon the floor to floor height dictated by the functional requirement [refer to following item C]. This limitation is intended to support the pedestrian scale of the spaces along the Walk, and to avoid the "canyon effect" of multistory elevations on both sides of the Walk.

Building heights exclude basements or other below grade floors unless those floors are visible from grade, such as along the south side of the Neighborhood in the Clinical/Research, Ambulatory Care, and Medical Center zones. Also excluded are roof parapets 3 feet or lower.

Building heights include rooftop mechanical penthouses if they cover more than 50 per cent of the area of the floor below, or are aligned with the face of an elevation of the building for more than 25 per cent of the length of the elevation. See Figure 7.27 for heights of buildings with rooftop mechanical penthouses.

C. Floor-to-Floor Heights

Building function is a determinant of the floor-to-floor height of each building. Hospital expansion buildings are assumed to align with the existing Thornton Hospital floor heights at 18-feet 9-inches. ECHS research buildings, including the Cancer Center are assumed to have a 16-foot floor to floor height, and Ambulatory Care Zone facilities are proposed to align with the existing Perlman Ambulatory Care Center’s floor to floor heights of 15 feet.
### Table 7.2 Building Heights

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<th>Zoning Plan Reference</th>
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<td><strong>Clinical/Research</strong></td>
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<tr>
<td>Cancer Center</td>
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<td>Shiley Center</td>
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<tr>
<td>Shiley Expansion</td>
<td>CR-2</td>
<td>2-3</td>
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<tr>
<td>Ratner Center</td>
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</tr>
<tr>
<td>Clinical/Research Facility</td>
<td>CR-3</td>
<td>3-4</td>
</tr>
<tr>
<td>Clinical/Research Facility</td>
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<td>CR-5</td>
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<tr>
<td>East Parking Structure</td>
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<td>Central Power Plant</td>
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</tr>
<tr>
<td>Clinical/Research Facility</td>
<td>CR-8</td>
<td>3-4</td>
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<tr>
<td><strong>Ambulatory Care</strong></td>
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<td>Perlman Center</td>
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<td>Clinical/Research Facility</td>
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<tr>
<td>Clinical/Research Facility (2 wings)</td>
<td>NC-2</td>
<td>2-3</td>
</tr>
</tbody>
</table>

*Six Story Building above grade with one basement level plus rooftop level

Table 7.2  ECHS Building Heights by Overlay Zone
7.6.4 Building Form and Massing

The building envelopes in the Neighborhood suggest a more horizontal massing orientation, rather than vertical. This orientation is consistent with the flat plane of the mesa landform.

New buildings in the ECHS should generally conform to this horizontal massing. Significant building features may be composed to be more vertically oriented, providing a visual counterpoint. Fenestration organized vertically through placement of windows or repetitive smaller vertical massing elements, as part of the overall horizontal massing, is consistent with this orientation. Section 7.6.7 discusses Fenestration in more detail.
Vertically oriented buildings are encouraged in two locations:

- The Medical Center Zone building sites MC-3 and -4 are proposed to be inpatient 4 story bed wings over 2 levels of diagnostic services. These buildings are located along the Health Sciences Walk West alignment and form a landmark entry on the south facing Transit Plaza bordered by Medical Center Drive South and the future LRT Station. This new plaza and landmark entry create a major new gateway into the Health Sciences Campus from the West Campus via the Gilman Bridge.
- The Cancer Center will be a vertical visual landmark on the east end of the Health Sciences Walk.

Terraced or horizontally stepped building massing should be considered for the North Canyon Zone buildings to mitigate the shade impact on the natural habitat on the Canyon floor, and visually reduce the mass of the building as it rests on the North Canyon parking structure (Figure 7.28).

The architectural image or "signature" of the building should come from the detail rather than its overall mass and form. Buildings should frame and reinforce the mesa landscape, rather than obscure it.

Dramatic "statements" in building form are to be carefully balanced in their context.

7.6.5 ENTRIES
Entry features are encouraged to strengthen and clarify wayfinding. Entry elements for individual buildings should be scaled to be seen from both roadways and the primary pedestrian network serving each building.

Encroachments into street setbacks for building entry features such as canopies or overhangs providing weather cover may be permitted at the discretion of the University.

Many building sites encourage entry from two sides, or even multiple entries. Program requirements suggest that many buildings may have multiple occupants, each requiring some identity at the entry.
7.6.6 Colonnades, Loggias, and Arcades

Architectural elements form the vocabulary required to be integrated into the design of all building elevations on the Health Sciences Walk at grade level. Colonnade or arcade elements are required for the entire length of the Walk elevation. These elements may be interrupted.

Colonnades are an integral part of the building and are defined as an open exterior space at the ground level, formed by a row of columns at the outermost edge (Figure 7.30).

Arcades are defined as a freestanding colonnade, detached but visually integrated into the building behind it. (Figure 7.31).

Colonnades and arcades may encroach into the 40-foot setback along the Health Sciences Walk, no more than 20-feet in depth. Arcades may also be a freestanding element such as a landscape structure, tensile fabric structure, or other colonnaded structure.
A loggia is a colonnade at the upper levels of a building, suggested in Figure 7.32a and 7.33. Its use as a feature above a colonnade is encouraged to provide visual interest to the Health Sciences Walk elevation.

7.6.7 Fenestration

The architectural expression of building facades should be referential to the building form, the function of the building, and express the hierarchy of entry, horizontal and vertical circulation, and symbolic interior spaces.

Fenestration should relate to the context of the building, and strike a balance between complexity and simple volumetric planes and forms. Detailed expression should relate to the treatment of openings, environmental control, and to the play of light and color, shadow and interior lighting.

Ground-level fenestration at colonnades, arcades, and building entries should be as large and open as practically possible to emphasize indoor/outdoor relationships and open space connections.

7.6.8 Roof Elements

The design of roofs should be considered of equal importance to that of elevations of the building. Most roof planes in the ECHS will be visible from both on- and offsite, and roof profile has a strong impact on building form and design. Rooftop equipment that could be seen from the ground or adjacent structures should be consolidated into uniform massing[s], painted and screened in a form that integrates with the overall building.

Roof forms should be balanced with the overall building composition, fenestration, and building details. Special roof features such as overhangs, gables, cupolas and skylights should be in scale with the overall building form and massing.

Continuous, uninterrupted horizontal roof forms such as flat roofs with parapets are to be avoided.

Landscaped rooftop terraces and features are encouraged.
7.6.9 Building Materials and Color Palette

The design of buildings in the ECHS follows the principles established for the Neighborhood concept that strengthen the Neighborhood identity to create a visually richer "sense of place":

The visual richness of materials and color is encouraged in the ECHS. The materials palette is intended to subordinate to and be harmonious with the natural landscape and its muted character.

The following materials are considered appropriate for use in the ECHS:

1. Exposed Concrete: Cast-in-place concrete, concrete panels, and "hybrid" panel systems such as fiberglass and composite concrete (GFRC). Color admixtures, aggregates, and finishes that enhance the warm natural site colors are encouraged.

2. Metal Panel Cladding Systems: Systems incorporating metal panels should avoid highly polished surfaces and large expanses of uninterrupted panels. Reflective finishes are prohibited, except as accent materials.

3. Cement Plaster: Burned or burnished, ground, heavy textures, and integral color finishes are encouraged over traditional painted cement plaster. Detailing systems should be designed to appear as panelized, rather than large continuous areas of finish material.

4. Wood: Where allowed by code and building occupancy, wood finishes should appear naturally-finished, as opposed to machine finishes, opaque paint, and composite wood materials.

5. Stone: Where cost-efficiently applied, stone finishes should appear as natural as possible. Flamed or honed finishes are preferable to highly polished finishes.

6. Glass Curtain Wall Systems: Metal-framed glass and structural glass wall systems should be sensitively incorporated into building form and exterior materials design which includes other materials. The use of these systems over the entire exterior envelope of the building is prohibited.
The use of other materials not included in this study may be allowed at the discretion of the University. All color selections should follow the specific guidelines of the Master Exterior Palette East Campus Health Sciences [1999] document available at FD&C.

7.6.10 BUILDING UTILITIES AND SYSTEMS: CENTRAL PLANT, PENTHOUSES AND ENCLOSURES

The Neighborhood Plan anticipates the early construction and phase in of the East Campus Utilities Plant (Site CR-7) to serve all non-hospital facilities in the neighborhood. This facility is intended to free the individual building sites of the burden of accommodating large mechanical and electrical equipment. The development of the Plant is also intended to improve energy efficiency, maintainability and flexibility over stand-alone solutions.

Building systems include all mechanical, electrical, plumbing, and drainage supply and distribution systems and their related components.

Where required, at the discretion of the University, equipment and systems may be located on the site or building exterior. However, they must be screened from view in the following manner:

- On-grade site locations must be fully screened by an architectural enclosure or a landscape screen feature. Architectural enclosures should be designed as an extension of the building form and massing, rather than freestanding buildings. They should be constructed of the same materials and color palette used on the building. The use of fencing materials is prohibited. Landscape screening is addressed in Section 7.5.7.
- Building locations: Building systems equipment and distribution systems must be housed in an enclosure which is integrated with the overall composition of the building and its materials and color palette, rather than an “attachment” or “penthouse.” Exposed piping, vent hoods, risers, and other building systems elements that are required to penetrate above roof and equipment enclosures should be carefully composed and constructed of permanent materials.
7.6.11 MISCELLANEOUS SITE STRUCTURES
Miscellaneous freestanding site structures required for parking control, physical plant services, Campus security, or other uses are subject to all guidelines and Standards in this Section.

7.6.12 LIGHTING GUIDELINES
Building and site lighting standards and guidelines should conform to the UCSD Campus Outdoor Lighting Policy and Outdoor Lighting Design Guidelines.

New street lights along the periphery of the ECHS neighborhood should match the West Campus standards and the existing street lights in this area should be repainted.

The objective of exterior illumination of the buildings is to comply with all requirements while maintaining minimum allowable lighting levels. This serves to reduce the visual impact of spectral pollution of the nighttime sky on research activities.

The illumination of ECHS building exteriors serves the following functions:

- **Wayfinding:** A hierarchy of building lighting types and levels of illumination should reinforce the location of building access and entries; generally higher illumination levels should be used at entry points.
- **Safety and Security:** Building entry and exterior circulation in colonnades, arcades, parking structures, service bays, and other exterior building elements must comply with the UCSD requirements for illumination levels, fixture types and locations, and lamp types.
- **Aesthetics:** The design of exterior lighting enhances the experience of the building, creates a sense of place, and reinforces the perceptual understanding of its spaces.
Building lighting design should reinforce the overall form, massing, and spatial characteristics of the building, rather than to create a “statement” about a particular feature of the building. Exterior and interior lighting features should be integrated to provide a visual understanding of the building’s composition and function.

The following guidelines support this approach:

- Illuminate space and planar elements, rather than particular features. Avoid the “spotlighting” of major building features.
- Reserve feature lighting fixtures for important building elements such as entries.
- Favor the use of diffuse lighting systems over those generating a strong, point-source of lighting.
- Enhance the visibility of interior building lighting to the exterior, giving a sense of light “emanating” from the building.
- Avoid dramatic changes of illumination levels, which can produce glare and disorientation.
- Provide higher levels of illumination in Clinical and Hospital Patient Care areas and their related parking structures.
- Enhance the illumination of landscape features.

7.6.13 Signage Program
The ECHS Neighborhood has a unique set of standards for exterior directional signage as well as internal building signage. It is intended that the style and standard currently in place remain. The UCSD Comprehensive Signage Program for the West Campus should be utilized for the periphery of the ECHS Neighborhood and approaches from the Gilman Bridge and Regents Road.

7.6.14 Building Security
The ECHS Neighborhood is within the jurisdiction of the UCSD Campus Security Department. Campus Security mandates the site and building design requirements to promote building security. Security should be addressed for exterior areas in use 24 hours/day.
7.7 Vehicular Circulation

Proposed modifications to the existing ECHS Neighborhood roadways include several important projects that will expand the current single access roadway at Campus Point Drive to three major neighborhood connections:

7.7.1 The Gilman Bridge
The Bridge (Figure 7.34) will link the east end of Gilman Drive on the West Campus to Medical Center Drive South. It will provide a direct connection to the School of Medicine and other West Campus facilities. One 12-foot vehicle lane and one 8-foot bicycle lane will be provided in each direction, as well as a 4-foot pedestrian sidewalk. Pedestrian access to the West Campus will be a 10-minute walk, and bike travel will be less than a five-minute ride.

7.7.2 Campus Point Drive
The existing Campus Point Drive (CPD) alignment at the intersection with Medical Center Drive North will be moved approximately 25-feet to the east to align with the new Campus Point Plaza, the visual entry to the Neighborhood. The existing lane configuration will be retained in the new alignment.

The CPD will be terminated at the Plaza, and the segment south of the intersection will be removed to be replaced by the Plaza and the new South Meadow environment. The two “halves” of the Neighborhood once bisected by the CPD will become a unified campus environment without barriers to pedestrian circulation.

7.7.3 Medical Center Drive
Medical Center Drive (MCD) forms a partial loop around the existing neighborhood at its edges, and with the removal of the CPD, the MCD is reinforced as a true Neighborhood loop system. MCD is segmented into four cardinal segments that relate to the edges of the Neighborhood.
The typical section of the MDC (the Drive) is one 13-foot wide vehicle and 5-foot wide bicycle lane in each direction separated by a 12-foot landscape median, from which an 8-foot left turn pocket is taken. Total width of the roadway is 48-feet curb to curb. See Figure 7.35.

Modifications to each include:

- **MCD North**: From the CPD intersection, the Drive is realigned and split by the North Meadow landscape element, and rejoins the existing roadway near the northeast corner of Thornton Hospital. A new 125-foot long left-turn lane accesses the new Medical Center Plaza and subgrade parking. The existing roadway north of the Shiley Eye Center will be widened to the north shoulder, holding the existing curb to the south.

- **MCD West**: As the Drive turns south, it is realigned to parallel the edge of the I-5 corridor, increasing the buildable site area in the Medical Center Zone. The Drive turns southeast to provide a 150-foot approach to the eastern landing of the Gilman Bridge. A 100-foot left turn lane allows access to the south leg of the Drive.

- **MCD South**: This segment begins at the Gilman Bridge and traverses the southern edge of the site. The Drive serves the north and south lanes of the shuttle drop-off at the Transit Plaza, allowing a right turn into the two-lane
drop-off areas in both directions. The LRT Station will be located one level below the Drive, allowing pedestrian access to the Station by the ramps, stairs and a tunnel.

The existing Drive will be modified to split as it crosses the South Meadow. The existing roadway will be removed, and rebuilt to follow the southern edge of the Meadow to a new intersection with the Science Research Park's Street C.

This realignment forms a larger site to accommodate the Cancer Center. Two crossovers from the eastbound lane give access to the Hospital Service court and the Ambulatory Care Center drop-off and parking structure ramp. At the east terminus of Medical Center Drive South traffic will turn left onto Medical Center Drive East to exit campus via Health Sciences Drive. This will reduce traffic from the West Campus traversing the Science Research Park to reach Regents Road.

- **MCD East**: The eastern segment of the drive passing to the east of the Shiley Eye Center will be extended south to the new intersection with MCD South. The existing curb line bordering the Shiley Eye Center site is to remain. Expansion or widening of the roadway should occur toward the east. A new intersection with Health Sciences Drive will form the eastern entry to the Neighborhood from Regents Road. Left turn pocket access to the Cancer Center drop-off is from the south at the Health Sciences Drive intersection.

### 7.7.4 Health Sciences Drive
This street is a 2-lane plus one bicycle lane in each direction, with no center median. Total width is 58 feet.

### 7.7.5 Emergency Vehicle Access
Both vehicle and helicopter emergency transport capability to the Hospital Emergency Department is anticipated in the future. The recommended path through the Neighborhood is shown in Figure 7.36.
Figure 7.36

- Ambulance Route
- Fire Department Access
- Recommended emergency vehicle access

APPROACH

Hellipad on roof
The final helipad location is dependent on the Federal Aviation Administration permit approved for the original Thornton Hospital. It has not yet been constructed. It is expected that the approach envelope will be from the Canyon to the north.

Various segments of the Health Sciences Walk may serve to accommodate emergency fire vehicles. The emergency access width will depend on the type of equipment to be used.

7.7.6 Building Service
Each site in the ECHS Neighborhood is required to have a service bay for materials delivery and trash removal, as well as space for recycling, truck loading, and limited service vehicle parking. In addition some separated and dedicated service zones may be necessary at research buildings, depending upon program requirements.

7.7.7 Shuttle Buses
The existing Campus Shuttle Bus route will be modified to serve new pickup and drop-off points in the ECHS, including the LRT Station, and the Medical Center Plaza. A limited number of private shuttle buses from neighboring residential, commercial, and institutional developments will also enter the ECHS to pick up and drop off passengers at the LRT Station. The final locations of these stops are subject to review and approval by the University.
7.7.8 **THE METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB) LIGHT RAIL TRANSIT (LRT)**

The proposed realignment of the LRT University City Extension line from west to east of the I-5 corridor will provide an excellent location for a transit station on the southwest end of the Neighborhood. The proposed alignment will proceed east along the South Canyon edge, cross the east end of the Canyon on an elevated trackway, and across the south edge of the Science Research Park. It will then align with Miramar Street, cross Regents Road, and continue on Executive Drive. The terminus is proposed to be east of Genesee Avenue at Town Center Drive.

The ECHS Neighborhood Plan proposes the development of a station that is one level below the elevation of Medical Center Drive South, with a tunnel pedestrian crossing at the Drive. Elevators and stairs or escalators would be provided at the Plaza to change levels up to the Drive or shuttle transit (Figure 7.38).

The result of separating the platform and the Drive serves to reduce the height of the elevated trackway, and lower it below the visual field of the buildings facing the canyon edge.

The LRT trackways, platform, and station will be planned, designed, and constructed by the MTDB. Close planning coordination between the LRT and the University improvements within the ECHS neighborhood will be required.

The MTDB Executive Committee supports the proposed realignment and is currently seeking additional ridership and cost information to ensure a sound decision regarding the location of the line.
Figure 7.37

LRT station and Transit Plaza
7.8 Bicycle Circulation System

The existing UCSD system will be expanded to provide access to all destinations in the Neighborhood. Figure 7.39 illustrates the new dedicated bicycle lanes at the edges of both sides of all major roads in the neighborhood. A new north/south path will connect Medical Center Drive South to Medical Center Drive North through Campus Point Plaza and the South Meadow.

The existing off-street bike path in the UCSD Meander that traverses the South Canyon will be modified to include the future Light Rail Transit Station on Medical Center Drive South. The path will connect to the on-street lanes and drop-off lanes for the Transit Station, as well as bypass the station.

7.9 Utilities Infrastructure

To support future development, new central plant facilities will be required. Two alternatives were considered:

1. Split Plants in a Single Location Onsite: Two plants would be constructed adjacent to one another on a site that is most efficient for both hospital and non-hospital facilities. This option is more efficient from a utility source point perspective, but would likely site the plant at some distance from the Hospital, the largest consumer of utilities.

2. Separate Plants: Two plants would be constructed in separate locations most adjacent to the consuming facilities. This is a more flexible option for several reasons:
   - The Hospital expansion could incorporate its plant in a lower level at the same time it is expanded vs. built-out when non-hospital facilities require their own plant.
   - Most of the infrastructure connects directly to the Hospital, and while it requires added capacity, would not be affected by constructing a new facility upstream.
   - The non-Hospital plant could be incorporated into another building, or housed in a freestanding building, such as indicated in Figures 5.1 and 5.2 under the CR-7 reference.
Figure 7.38

ECHS On-Street Bike Lanes

Bike Path