

# EXHIBIT 15

8.0  
DESIGN CONSIDERATIONS



## 8.0 DESIGN CONSIDERATIONS

### 8.1 OBJECTIVE

These Design Considerations are intended to serve as a guide for implementing the vision established in the Ultimate Site Plan. When considered in conjunction with the Ultimate Site Plan, these guidelines will assure that new developments implement the vision set forth for the long range development of the campus.

The Design Guidelines are organized in a format which reinforces the key design elements or building blocks identified in the Ultimate Site Plan as essential to fostering a strong sense of place for the campus. These elements cover a variety of planning design criteria and the guidelines offer practical, definitive standards for implementation. Guidelines within the building block categories include: 1) general guidelines which apply to the entire building block category, 2) guidelines which apply to specific subcategories within the building blocks, and 3) guidelines which apply to site-specific areas on campus. A Plant List is provided in Appendix J of the Ultimate Site Plan section (Section 7.0) of this report and serves as a guide for plantings recommended for each of the building blocks.

### 8.2 PEDESTRIAN CIRCULATION SYSTEM

The main pedestrian mall and paths provide a circulation system connecting the various campus components (Figure 7.2). As a major organizing element of the campus, the main pedestrian mall and paths should be well defined to create a sense of order and hierarchy. The main pedestrian mall serves as the primary path within the campus, with secondary paths extending from the main pedestrian mall to the various uses and activities on the campus. These walkways should be viewed as providing a sequence of events, an interconnection of "places," rather than simply a corridor to get from one building to another. The following are general guidelines for the main pedestrian mall and paths on campus.

1. Pathways that need to serve as fire truck access are required to be 20 feet wide. Pathways that need to accommodate occasional maintenance vehicles should be a minimum 12 feet wide. All other pathways should be a minimum 8 feet wide.
2. Establish separate pedestrian and vehicular pathways. Where these paths intersect, provide safe, short crossings highlighted through the use of bollards, pavement changes, planters, and accent vegetation.
3. Establish a hierarchical pedestrian walkway system which provides for different types and levels of use. The design of each walkway should visually communicate its role within the pedestrian network. The main pedestrian mall should accommodate the efficient movement of students between classes within all major portions of the campus, while the remainder of the paths will serve to provide a complete connection among all the campus facilities.

4. Paths should lead directly to destinations, without major deviation. They should flow smoothly without abrupt changes in direction or obstacles in the walks. Where directional changes occur, accent planting material should be used to highlight these transition areas.
5. Add amenities and reinforce pedestrian pathways and open spaces with planting and site furnishings.
6. The alignment of walkways should capitalize on visual amenities along the route: views of campus buildings, open spaces, and views beyond the campus.
7. Provide safe lighting throughout the campus by utilizing theme fixtures along pedestrian pathways and cast lighting directed from adjacent buildings into the activity areas.
8. Provide accessibility for individuals with disabilities to all buildings and principal outdoor assembly areas. Maintain barrier free access dimensions for all ramps, walkways, doors, halls, toilets, public telephones, drinking fountains, and designated parking per ADA requirements.
9. Provide level rest areas at appropriate intervals along the main walkway system, as are required by code for individuals with disabilities.
10. Provide a non-slip, low-maintenance surface with texture and/or color cueing.
11. Provide sensory aids for the visually impaired (e.g., Braille signs and texture change in the pavement.)
12. Consider the future development of the campus in the layout of pedestrian paths.
13. Provide for security by allowing visual control, security lighting, and avoiding hiding places along pedestrian paths.
14. Strive to maintain a pedestrian/human scale for all of the walkways on campus.
15. The horizontal alignment of paths should usually follow the natural topography, with ramps preferred to the use of steps. Comfortable walking surfaces should have adequate widths to handle the expected type and volume of traffic.
16. Design walkways with materials which are appropriate to the existing climatic conditions at the Kaua'i CC campus.

### **8.2.1 WALKWAY MATERIALS, COLORS, AND PATTERNS**

1. Walkway surfaces should be of an unpainted, durable, non-slip material with a textured surface. As noted previously, the surface should be sufficiently level to accommodate individuals with disabilities, but should also be designed for proper drainage.

2. Acceptable materials for walkways might include concrete, brick, pavers, or a combination of these materials. Asphalt paving is not acceptable, except for temporary walks. For durability, ease of maintenance, and economy, the use of concrete is best. Special care should be taken in assuring a high quality of scoring and jointing techniques.
3. The potential variation in finish for walks is great. Standard walks should have a coarse broom finish, with walk edges, control joints, and construction joints smooth tooled. Typical walks should be warm-toned, natural colored concrete. Other concrete finishes might include exposed aggregate surfaces, rock salt texturing, special coloring, or the use of stamped and/or textured concrete imprinting processes to give an appearance of brick, stone or pavers. These special finishes are more expensive and should be reserved for areas of visual impact such as door entries, walk intersections, paved plazas and other nodes. Paving patterns, colors and textures should be selected to complement the surrounding context and to create visual harmony.
4. Single color or muted patterns for paving should be selected, as heavily contrasting patterns create visual ambiguity for persons with visual impairments.
5. Glossy surfaces or surface materials which produce sharp, brilliant reflections of light should not be used.
6. Limit the use of dark surfaces (reflectance less than 20 percent) as they often provide a strong contrast with the surrounding environment; therefore variations in the surface are less discernible to the visually impaired and mis-steps may result.
7. A cueing system consisting of textures and/or color cues for paving should be developed that is consistent throughout the campus and relates to interior flooring cues. This system should provide textural and color cueing for potential hazards (slopes, steps, adjacent service areas and vehicle zones, walkway intersections, paths or walks entering large pedestrian plazas), and areas and facilities adjacent to or connected to walks (such as transportation areas, rest stops, picnic areas, public conveniences such as telephones, drinking fountains, trash receptacles).

### 8.2.2 MAIN PEDESTRIAN MALL (PRIMARY PATH)

The main pedestrian mall begins at the parking lot and brings the pedestrians into the campus between the Theater and the proposed Administration Building. The main mall then tees off westward toward the Campus Center building and the west plaza and continues across the loop road toward the sports complex. The mall also tees off northward toward the east plaza.

Because most of the length of the main pedestrian mall is required to serve as a fire lane, it needs to be 20 feet wide. To break up the expanse of concrete, the mall should be composed of a combination of materials such as concrete and grass pavers or concrete with bands of brick pavers.

The main pedestrian mall will serve as the major interconnecting path system throughout the campus. The main pedestrian mall will also serve as the link to secondary paths established for the campus. (Figure 7.2)

1. The main pedestrian mall will consist of uncovered walkways.
2. Except for emergency or service vehicles, the main pedestrian mall should be limited to pedestrian traffic only. The walkways should be broad and constructed of high quality, non-slip paving material.
3. To provide access for individuals with disabilities and to promote more efficient crowd movement, stairs or steps are not permitted along the main pedestrian mall. Each facility must have at least one entrance connecting to an accessible route through the campus.
4. The main pedestrian mall should be incorporated as part of the planning and design of each new building on the campus.
5. To help define and create a sense of identity, the main pedestrian mall should take on the appearance of a landscaped pedestrian mall designed with the use of consistent paving materials/patterns, along with rest areas supplemented with coordinated site furnishings such as planters, high-quality lighting (for safety), drinking fountains, banners, information kiosks, signage, benches and attractive trash containers.
6. The maximum gradient for these walkways is 5 percent with a minimum width of 20 feet.
7. Hong Kong Orchid tree is the recommended theme tree for the main pedestrian mall. These trees should be planted at even intervals along the spine to reinforce the character and image of this path.
8. Bicycle parking should be provided in strategic areas at entrances to the main pedestrian mall.
9. Bicycle riding should be permitted on the main pedestrian mall until conflicts between bicyclists and pedestrians require restrictions on bicyclists from using the main pedestrian mall and secondary paths. At that time, signage stating those restrictions should be posted at the beginning/end of each path.

### 8.2.3 SECONDARY PATHS

Paths extend from the main pedestrian mall and serve as secondary pedestrian walkways throughout the campus (Figure 7.2). These walkways will handle traffic to or between individual buildings and parking areas.

1. These paths should be uncovered.

2. The paths should be limited to pedestrian traffic, but should also be designed to accommodate an occasional service vehicle.
3. The maximum gradient for these walkways should be 5 percent. If the grade requires a steeper walkway, the walkway must be designed as a ramp to meet the requirements of the ADA Accessibility Guidelines.
4. Paths should be no less than 12 feet wide.
5. Plantings along the secondary paths can be less formal in character compared to the main pedestrian mall, but a consistent use of planting material is required for each individual path in order to convey continuity and identity. The Plant List (Appendix J) should be used as a guide for the planting material along the paths.

### **8.3 PLAZAS AND OPEN SPACES**

Paths, activity areas and open spaces are closely interwoven elements which serve to establish a sense of identity and character to the campus. Emphasizing the development of these elements incorporates the idea that the life of the campus occurs not only inside the individual buildings but at certain activity areas and open spaces which are part of, or adjacent to, the circulation system. When well designed, these spaces can provide an attractive and relaxed contrast to the facilities around them. General design guidelines for activity areas and open spaces are presented below.

1. To establish the volumetric definition of a plaza, courtyard, or open space, the ground plane (paving, ground cover), middle plane (walls, trees, shrubs), and overhead plane (tree, canopy, trellis), as well as changes of level across the plaza or courtyard space need to be carefully designed.
2. Plazas, courtyards, and open spaces should be accessible to individuals with disabilities. Where steps or changes in level occur alternate ramp access should also be provided.
3. Plazas and courtyards should be designed to provide an atmosphere for relaxation and provide opportunity for student interactions such as formal gatherings and assemblies, relaxation or eating.
4. Plazas, courtyards, or open spaces may function as formal entrance spaces to buildings or a group of buildings; as an entrance, they should direct traffic to the building.
5. The design and appearance of the open space should visually relate to and complement the design of adjacent buildings.
6. Views to and from the proposed plaza, courtyard, or open space from strategic viewing positions should be considered in the open space design.

- trellis-like structure could be built at the top of the amphitheater which would serve to provide a pedestrian scale to the theater by visually breaking up the tall wall. It will also define the amphitheater area and provide shade.
3. Design and detail the mini-plaza along the main pedestrian mall above the amphitheater with materials which are appropriate to climatic conditions, such as smooth, stable, dry and non-skid surfaces. Paving for this plaza should be of the special materials or textures noted previously. Provide variation in paving surfaces where appropriate.
  4. A distinct landscape theme should be established for the Central Quadrangle to create place identity. Landscape surfaces should be predominant along with accent shrubs, hedges, and accent trees.
  5. Due to the high use and visibility of the Central Quadrangle, it should have priority for higher levels of maintenance. However, efficient landscape maintenance practices should also be considered.
  6. An outdoor seating and dining area should be provided on a portion of the area adjacent to the Campus Center.

### 8.3.2 PEDESTRIAN NODES

These hardscape spaces may be of any size, from a small paved intersection of walkways, to larger spaces with some street furniture and a number of smaller trees. They occur at intersections of the main pedestrian mall and paths, drop-off locations, or where the main pedestrian mall enters a large open area (Figure 7.3).

1. Pedestrian Nodes should be paved, and include landscaping and appropriate site furniture. Paving should be of special materials or textures to accent certain areas. Site furnishings could include information/advertising kiosks, bike racks, lighting, trash containers, water fountains and sculptural pieces.
2. Design and detail plazas with materials which are appropriate to climatic conditions, such as smooth, stable, dry and non-skid surfaces.
3. Provide food and coffee carts along with movable tables (with umbrellas) and chairs. The buildings which provide frontage onto these plazas could be embellished with awnings, for shade and protection from the climate. Vending machines should be screened from view.
4. Distinct landscape themes should be selected for each of these plazas to create place identity. Hardscape surfaces should be predominant along with accent shrubs, hedges, and accent trees.



### 8.3.3 COURTYARDS

Courtyards are considered open spaces which are adjacent to buildings. Courtyards could either be formal hardscape entrances to buildings or internal courtyards which are designed as part of a building and surrounded by four sides of the building. These spaces also serve as informal gathering areas and should be able to accommodate gatherings and student activities.

1. Provide trees and planters with shrubs or ground covers to define spaces and circulation patterns, provide scale and shade, and provide atmosphere, interest, and character.
2. Use a combination of trees and overhead structures such as trellises to provide shade and create a comfortable gathering area.
3. Encourage the use of native plant material.
4. Provide built-in seating areas as well as adjustable seating areas to encourage use of the courtyards.
5. Provide interesting paving patterns which serve to tie adjacent buildings together. Paving should be durable and slip-resistant.

### 8.3.4 ETHNOBOTANICAL GARDENS

In addition to the Culinary Arts Tropical Gardens, the campus will also display plants in theme gardens such as the Japanese Garden at the Japanese Tea House, Chinese Garden at the site of the existing pavilion, and the Hawaiian Garden located in the area around the proposed Hawaiian Studies Building. The gardens will display plants native or culturally significant to each culture. Information plaques should be included with different species to provide education about cultural uses.

These areas are primarily landscaped open spaces which provide for both leisure recreational enjoyment, as also serves as an educational resource for students. General guidelines are discussed below.

1. The garden will consist of plants which are used by the various cultures for food, medicine, religious purposes, and cultural practices. Refer to the plant list for suggested plant material.
2. Pedestrian paths should be made of materials that blend into the native landscape (e.g. black cinder, asphalt, gravel) and should have meandering alignments related to topography.
3. Name plaques and information about specific plants and/or donor should be provided for all of the specimen trees in this area.

### 8.3.5 NATURAL AREAS

In natural areas, existing plant material should be retained as much as possible.

## 8.4 ARCHITECTURE

### 8.4.1 INTENT

Architectural design guidelines are required in order to promote a strong sense of harmony and unity among the buildings on campus and to encourage all projects to be planned and constructed as part of an ongoing process based on the concepts of the Long Range Development Plan. It is not the intent to dictate a rigid architectural style for buildings, but rather to guide the development of the campus towards unification in architectural character derived from:

- a sensitivity to climatic factors,
- the architectural character of existing buildings,
- building scale,
- complementary colors and materials, and
- siting relationships within the campus.

Project boundaries should be identified for new building projects in order to assure that the goals of the Long Range Development Plan are fully realized and that incremental development occurs in a logical fashion. Locating boundaries for new projects also reinforces the desire to plan the entire campus as a whole, rather than allow piecemeal development which could leave leftover, unplanned spaces.

The Ultimate Site Plan identifies the building footprints to accommodate program elements for an ultimate population of 3,000 FTE. These footprints were sited in relation to the public spaces (as discussed in earlier sections), in order to encourage activity (campus life) among the campus community. The desired massing and scale relationships of these footprints is further discussed in the following guidelines.

It is the intent of these architectural design guidelines to establish a contextual vocabulary with which buildings would be designed to support and enrich the overall vision of the campus as described in the Ultimate Site Plan report. The following sections address building form (scale and massing), building elements, materials, and color, as details which should be guided by an adherence to the objectives of the Long Range Development Plan.

### 8.4.2 BUILDING FORM

The following guidelines are provided to set a standard for consistency in the massing and scale of new campus buildings, while allowing freedom for the design of each building to meet the needs of its projected program requirements.

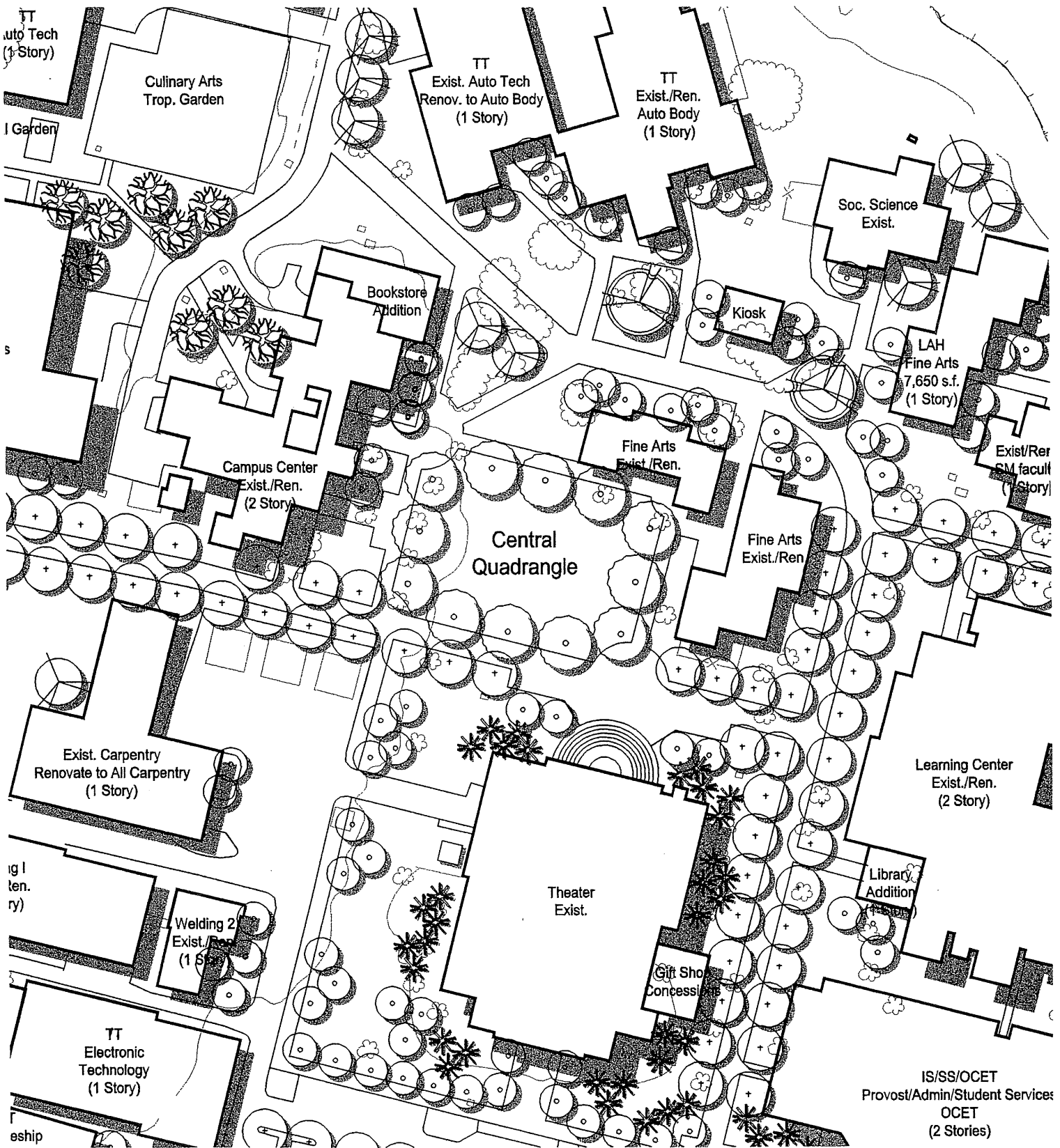
1. Desirable features for new buildings include: articulated building facade, sloping roof lines, well defined entry orientations, and ground floor activity access (Figures 8.2 through 8.6) .
2. A unified campus vernacular of shed or hipped roofs, with emphasis on horizontal building forms, should be developed.
3. Heights should be limited to a maximum of two stories, with all of the Trade and Industry shop facilities limited to one story, except for partial mezzanines.
4. Buildings of monumental scale should be avoided, and instead a few “landmark” buildings should be strategically located within a backdrop of harmonious campus buildings.
5. Locations for “landmark” buildings include the Provost/Administration/Student Service/OCET Building near the main entry to the campus. The Media/Computer Services Building would also be categorized as a “landmark” building due to its prominent location at the campus’ entry. These buildings should be designed with a higher level of articulation, to be focal points on the campus against the backdrop of other buildings.
6. Simple geometric forms should be employed for the majority of campus facilities.
7. The basic building layers (i.e. base, mid-section, and roof) of each facility should be expressed.
8. Solar shading and reveals in fenestration should be employed to articulate building scale and mitigate climatic factors.
9. The building form should express visually interesting ground level activities, such as specialty classrooms, meeting rooms, art studios or computer labs (for information, interest, discovery, and nighttime security), especially along the main pedestrian mall.
10. Mechanical penthouses should be integrated into the overall architectural expression and contextual vocabulary.

#### 8.4.3 BUILDING ELEMENTS

A hierarchy of building elements should be used for the different types of campus facilities.

1. **ROOFS:** With building heights limited to two stories, the roofs become an important building design element throughout the campus (Figures 8.2 through 8.6). Rooflines on the academic instructional facilities and most of the support facilities should slope in response to Kaua’i’s climate. Overhangs should be designed to provide protection of the vertical building surfaces.

Although flat roofs are acknowledged to be inappropriate for the climate, it is acceptable that they may be mandated for some of the larger facilities due to the building size and roof top



### Planting Legend













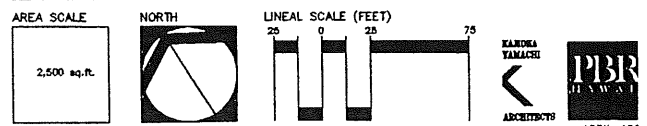
- |  |   |
|--|---|
|  Monkeypod (50')        |  Pedestrian Mall Tree (35')  |
|  Kamani (40')           |  Flowering Accent Tree (25') |
|  Kukui (35')            |  Flowering Accent Tree (25') |
|  Wiliwili (35')         |  Loulou Palm (20')           |
|  Parking Lot Tree (35') |  Coconut Palm (20')          |
|  |  Screening Plant             |
|  |  Existing Trees              |

Figure 8.1  
Central Quadrangle Plan  
**KAUAI CC LRDP**



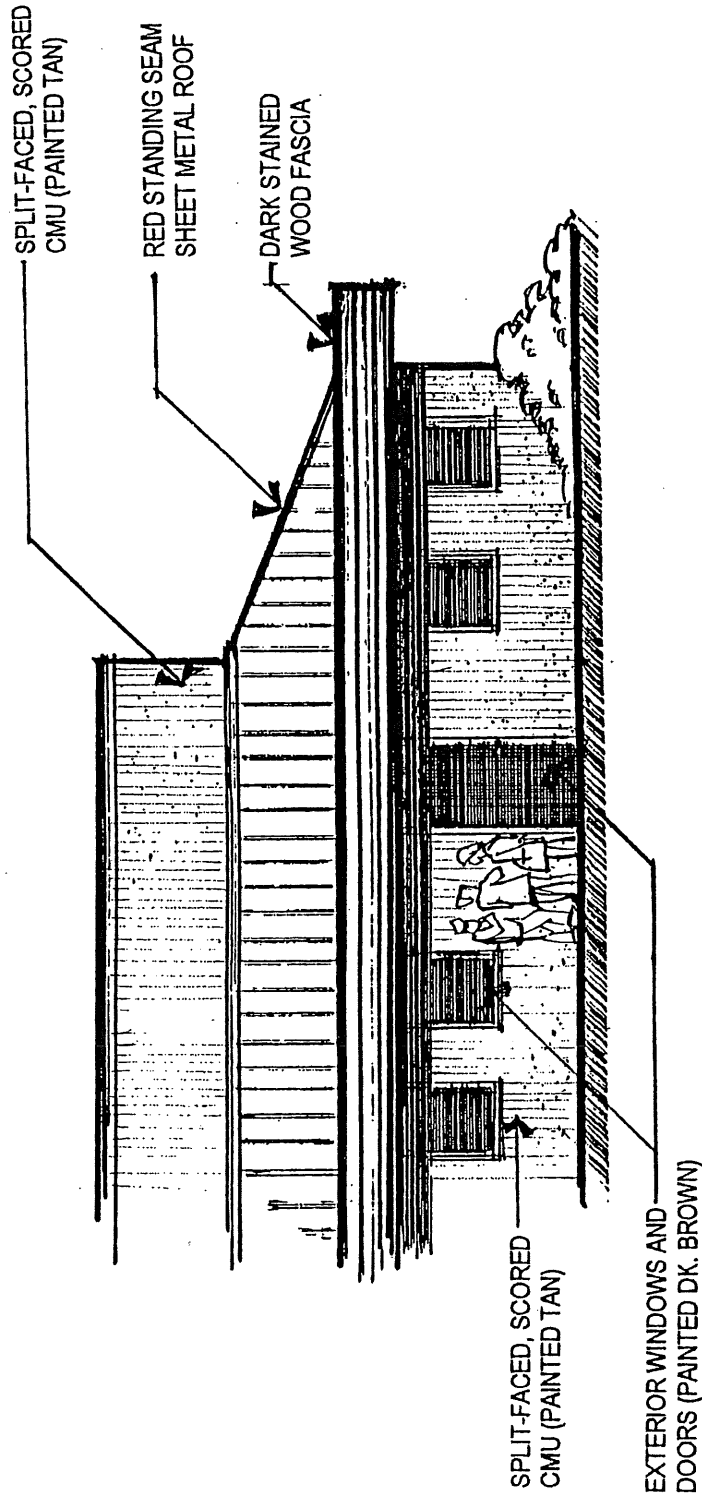


Figure 8.2  
 One-Story Instructional Building  
 (Hip Roof Condition)  
**KAUAI CC LRDP**

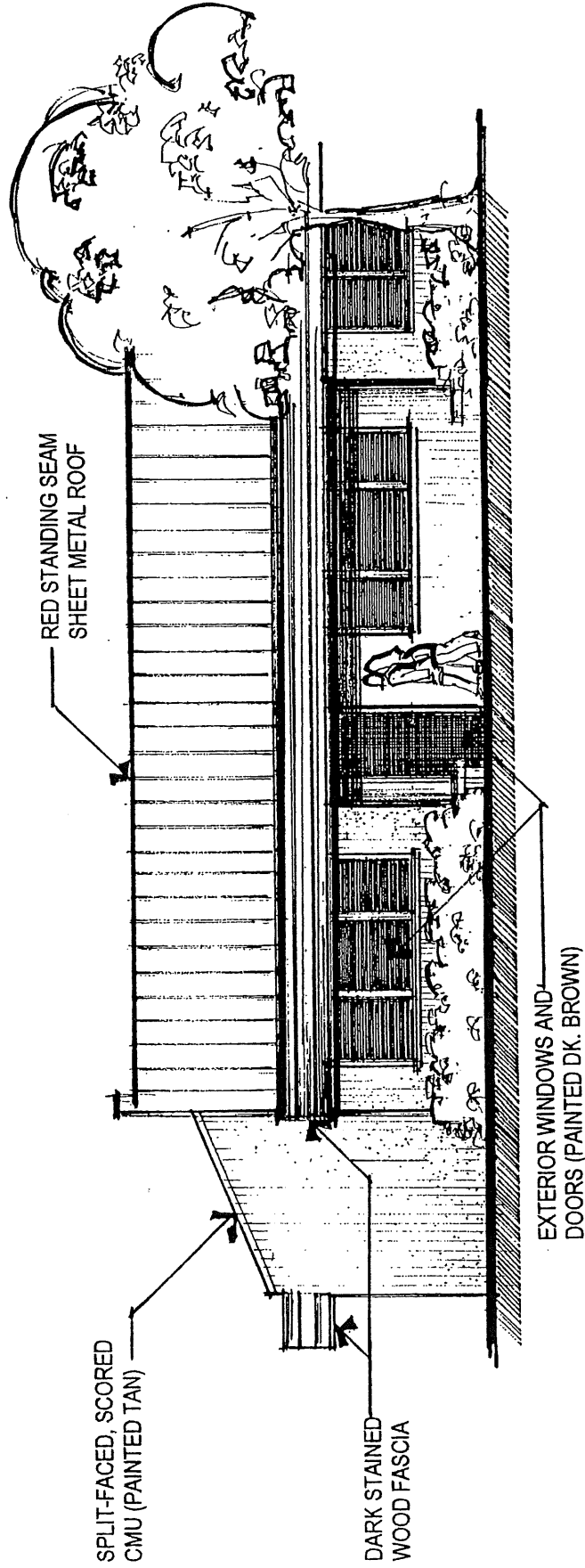
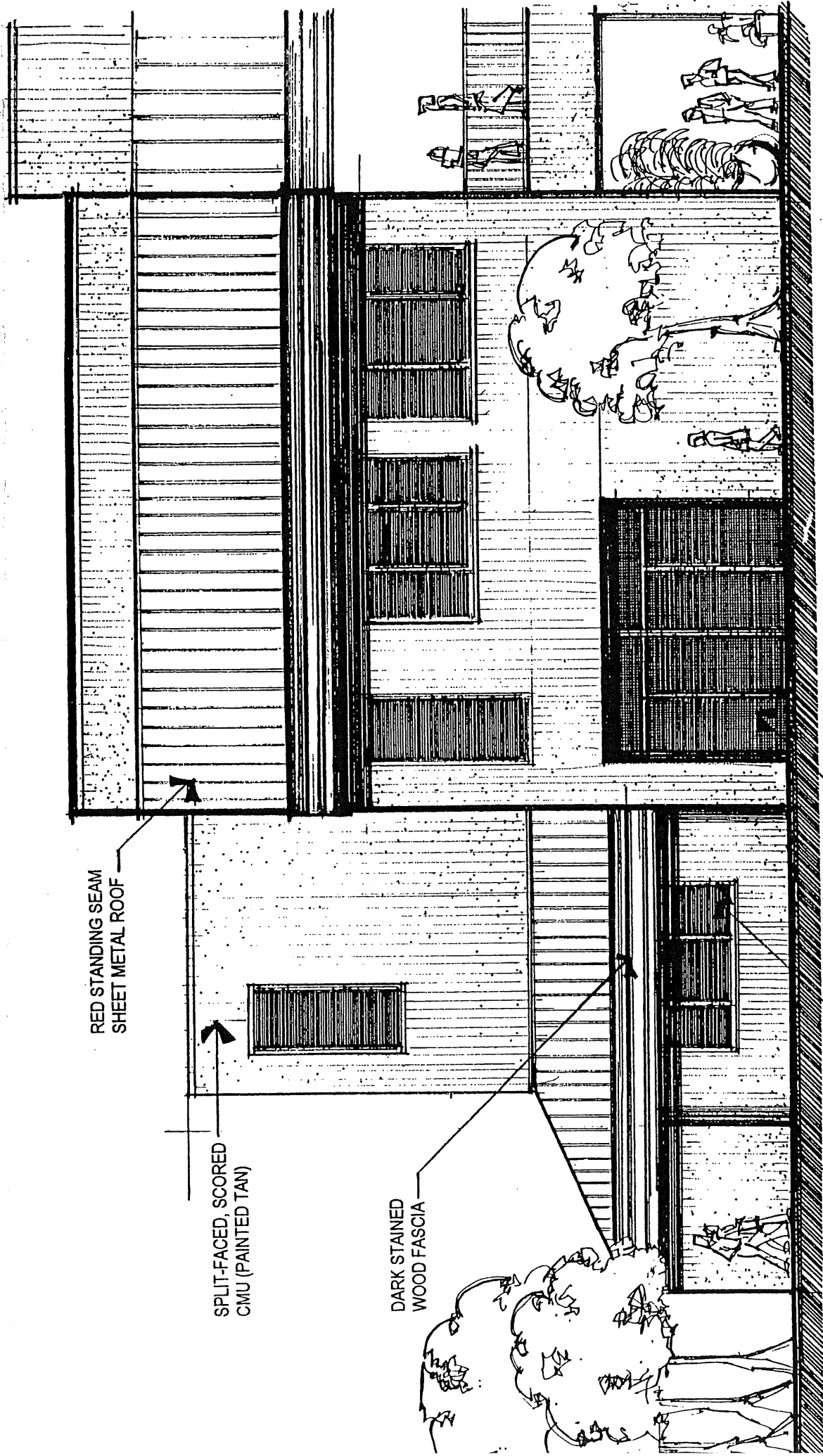


Figure 8.3  
 One-Story Instructional Building  
 KAUAI CC LRDP



RED STANDING SEAM  
SHEET METAL ROOF

SPLIT-FACED, SCORED  
CMU (PAINTED TAN)

DARK STAINED  
WOOD FASCIA

EXTERIOR WINDOWS AND  
DOORS (PAINTED DK. BROWN)

Figure 8.4  
Two-Story Instructional/  
Office Building

**KAUAI CC LRDP**

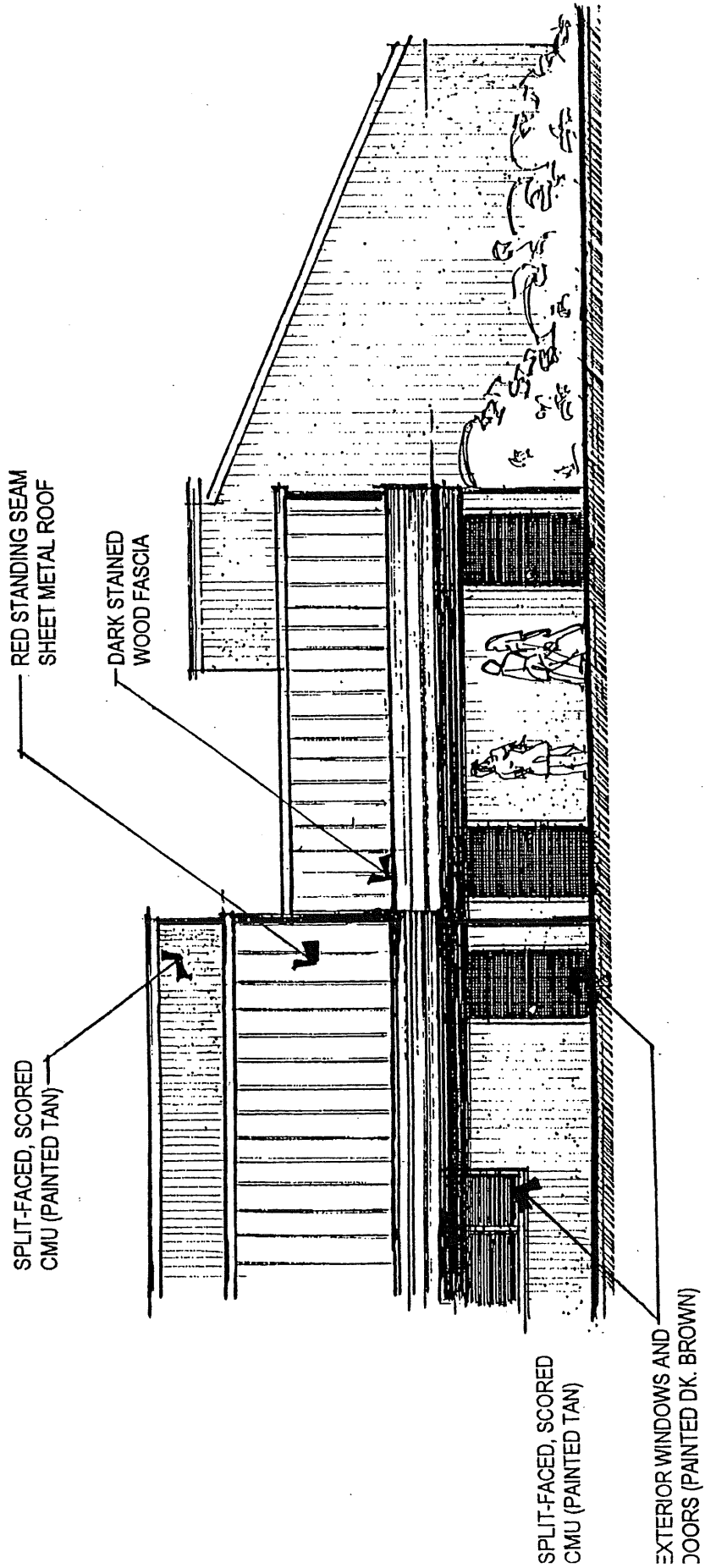


Figure 8.5  
 One-Story Instructional Building  
 (Shed Roof Condition)

**KAUAI CC LRDP**



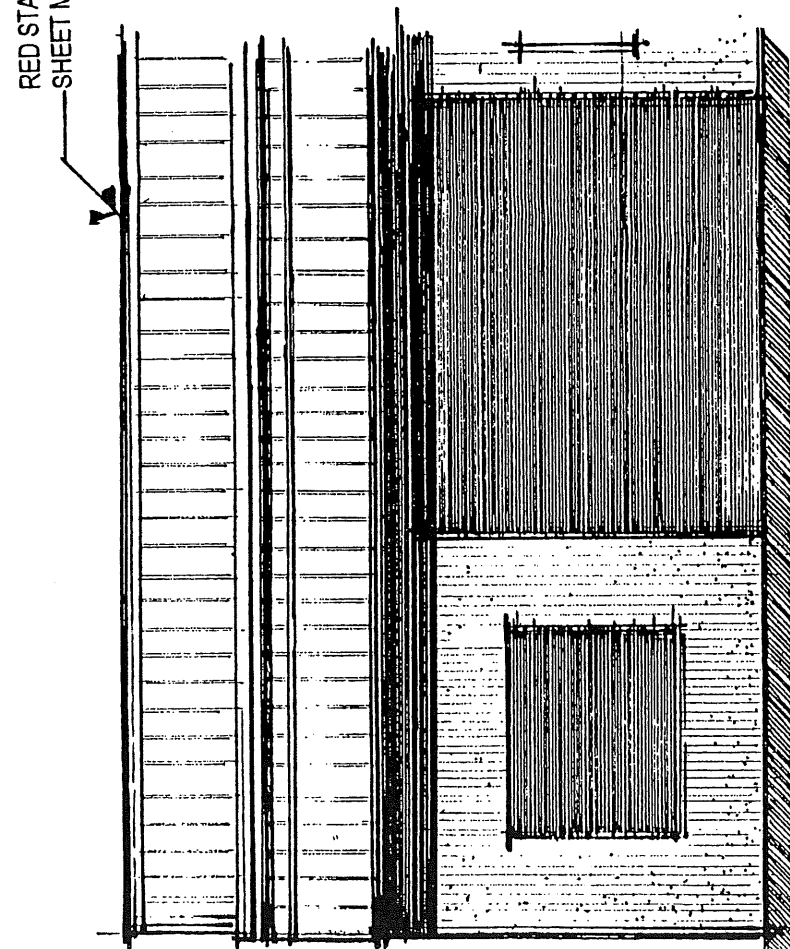
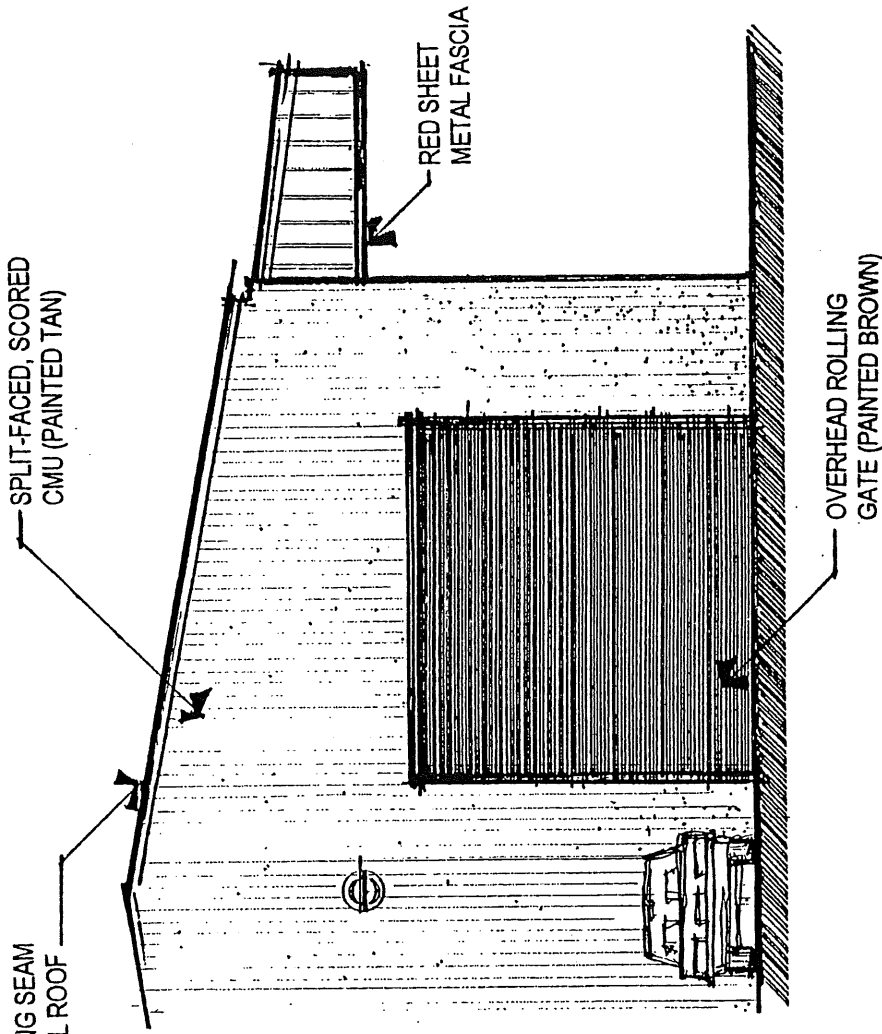


Figure 8.6  
 One-Story Industrial Building  
**KAUAI CC LRDP**

mechanical and/or venting requirements (Figures 8.2 through 8.6). Where possible, sloped roofs should be integrated to minimize the areas of flat roofs. The design of these roofs must be carefully evaluated and detailed to ensure a watertight, low maintenance life cycle. Roof top mechanical equipment should be screened from adjacent buildings and from pedestrian viewpoints. Noisy equipment as cooling towers should be properly prepared to mitigate noise concerns to adjacent buildings

2. **FACADES:** The two support facilities located at the main entry to the campus demand a higher level of complexity in their detailing, massing, and use of materials. Not only must these facades greet first time visitors entering the campus in automobiles, but the everyday campus community will become very familiar with the buildings from a pedestrian's viewpoint.

Buildings which are set back from the walkway system should relate to adjacent outdoor spaces by promoting an indoor/outdoor relationship vital to the effectiveness of the pedestrian walkway system and open space network.

3. **ENTRIES:** Building entries should be clearly defined, provide a gracious welcome, and relate to the pedestrian walkway system. Building entries should be designed with enough space to accommodate the peak loads of groups gathering between classes.

Multiple entries into the support facilities should be provided to facilitate their flexible and varied interior functions. A hierarchy of entries should be incorporated into these facilities to provide the user with an easily identifiable circulation system.

Academic instructional facilities should have a limited number of entries for security purposes and to influence the circulation flow without the need for excessive signage.

#### 8.4.4 MATERIALS

Building materials must be appropriate for the location (climate) and context (pedestrian oriented campus) of the site. Academic architecture should express the enduring quality of education which can be reinforced through the use of materials with long term durability.

1. The primary material palette for exterior walls should be natural, enduring materials such as stone, masonry and concrete (Figures 8.2 through 8.6).
2. The detailing of stone and masonry walls must take into account the wet climate and the desire for low maintenance requirements.
3. Concrete may take many different forms including: lightweight concrete panels, cast in place, or precast panels.
4. CMU should be carefully evaluated before considering it as an exterior wall material. In its natural state, concrete masonry units (CMU) seem ill suited for the image of a friendly,

inviting campus. CMU is only to be used as an exterior wall material when covered with plaster or skim coating, or when a specialty type is used as an accent material.

5. Accent materials may be used as a design element relating to specific program requirements or for contextual reasons based on the location of a building on the site (i.e. buildings grouped around a common open space may have a common accent material to enhance the identity of the space). These accent materials may include bluestone, lava rock, coral, tile, or wood in selected areas.
6. In general, wood is not recommended as a main exterior building material due to its high maintenance characteristics. When protected from moisture it may be used as an accent material or as trim.
7. Glazed areas should be encouraged, when properly designed, to maximize the use of daylighting within the facilities. However, large areas of curtain wall are appropriate only in facades with special significance and when carefully detailed and well protected with overhangs.
8. Roof materials: Sloped roofs should be metal with either standing seams, batten seams, or flat seams (Figures 8.2 through 8.6) to match existing roof materials.
9. Materials should be evaluated for their regional contextualism, their ability to withstand the climate, and their overall low maintenance survival rate.

#### 8.4.5 COLORS

Color is an important device for providing continuity and overall unity throughout the campus. Based on the use of natural materials the overall palette for the buildings should be earth tones, with natural finishes, and the use of paint only where the exterior wall finish material may require it for preservative treatment. In keeping with this indigenous, earth toned theme the color of the roofs should also be limited to earth toned variations of reds.

1. A limited palette of neutral colors (Figures 8.2 through 8.6) will help unify the campus while allowing the form of the buildings to vary as may be required based on their function. These neutral colors work well in Kaua'i, to provide a warm and inviting character for the campus.
2. A consistent use of reds for roof colors (Figures 8.2 through 8.6) will provide a connection between buildings (and therefore a strong sense of place), even though their functions, and therefore their forms, may vary from instructional classroom facilities, to office buildings, and technical shop buildings.
3. Accent colors may be used to develop place identity within the different areas of the campus. These colors should be stronger, and the palette more vivid since they will occur in much less quantity.

#### 8.4.6 OTHER DESIGN CONSIDERATIONS

While planning individual building projects, designers must consider accessibility issues, along with the requirements for building security, operations, ease of maintenance, and fire safety.

##### 8.4.6.1 Accessibility

1. Provide for all buildings to be accessible per the requirements of the Americans with Disabilities Act. Each facility must have an entrance on to an accessible route connecting all of the facilities on the site.
2. Refer to Section 7.4 for the proposed accessible pedestrian route, passenger drop-off locations, and accessible parking locations to be provided for the campus.
3. All two story facilities must include elevators, per ADA and building code requirements. If buildings are connected at the second level, their design may include a shared elevator, if all other code requirements and life safety conditions are met.

##### 8.4.6.2 Security

1. Maximize opportunity for building lighting to illuminate adjacent exterior areas for nighttime security.
2. Design service and loading areas to be visually screened against unsightliness, but not totally cut off from views for security concerns.
3. Allow for meeting rooms in buildings to be grouped together and be secured from other areas of buildings (or with separate entrances to building exteriors). This will allow for efficient after-hour use.

##### 8.4.6.3 Lighting

1. Provide for necessary functional requirements and also contribute toward the enhancement of campus image.
2. Concealed source lighting should be emphasized and designed to feature architectural elements and building form rather than fixtures themselves.
3. Spacing of trees and exterior light fixtures should be considered in relation to one another.

##### 8.4.6.4 Service/Ease of Maintenance

1. Locate service docks away from major building entries.

2. Screen service dock areas with landscape or solid walls, or by recessing the areas into building envelopes.
3. Locate mechanical equipment for ease of maintenance and provide visual screening and weather protection.
4. Building design should consider ease of maintenance for the regular upkeep of the facility, along with periodic servicing needs.

#### **8.4.6.5 Fire Safety**

1. Design all new buildings to meet fire safety standards and local Codes.
2. Provide access for emergency vehicles to all new buildings, and throughout the campus per County of Kaua'i regulations.

## **8.5 LANDSCAPING**

### **8.5.1 PLANTING**

The organization of landscaping for the campus is graphically illustrated in the Ultimate Landscape Plan (Figure 7.15). These planting guidelines serve to implement the overall concept established in the Ultimate Landscape Plan. The guidelines are supported by the Plant List (Appendix J) which identifies planting material for various portions of the campus.

1. The overall landscaping concept should consist primarily of open lawn and groundcover areas and trees. Landscape plans should be simple in design to minimize maintenance requirements. Small turf areas should be avoided by using ground covers or volcanic cinder which require less maintenance when established.
2. Landscaping and related elements should be used to create and define spaces rather than fill or clutter an area with objects. Plants can be used to create enclosed spaces and to separate spaces from one another. They can also be used to direct people through outdoor spaces by visually defining and reinforcing patterns of movement.
3. Use plant material and planting design to develop a sense of order to highlight the hierarchy of spaces and buildings, to articulate the vehicular and pedestrian circulation network, and to highlight important buildings and outdoor spaces. Shrubs and hedges should be used as spatial reinforcers, screens, and accents, but they should be used cautiously to not create dangerous conditions (i.e. hedging in areas where someone could hide).
4. Use plant materials to serve to unify the campus, create a campus identity, define the limits of the campus, and provide educational opportunities (such as plant identification, planting design, horticulture and landscape maintenance practices).

5. Planting design should also reflect the function in which the space will serve to achieve an appropriate design. For example, large usable open spaces could be planted with lawn and canopy trees for shade, while smaller outdoor eating areas could be landscaped with accent trees, shrubs, and groundcover.
6. Planting arrangements should use repetition, rhythm and simplicity to create a sense of continuity and order. Repetition can be achieved through the consistent use of a species-specific tree or shrub. Rhythm can be achieved through the regular spacing of trees or shrubs. Simplicity can be achieved through the careful selection of a limited planting palette as opposed to plantings consisting of one of everything (which leads to fragmented composition). Together, these elements create emphasis and unity and are especially effective in articulating main circulation routes, through street tree planting.
7. Plant selection should consider form, ultimate size, color and texture. Form deals with the shape and size of the plant material. Ultimate size deals with the height and spread of canopy for plant material (as described in the Plant List). Color and texture improve the appearance of an area by providing contrast and interest to the landscape. Large masses of a single color are generally more satisfying than a heterogeneous blend of many colors. The texture of a plant material can be either coarse or fine, depending on the relative texture of plants immediately adjacent to it. Rough or thorny textures in a screen or hedge planting can serve a functional use when the hedge serves a security purpose.
8. Use accent tree plantings and flowering ornamental shrubs to highlight entries, major plazas, open spaces, buildings, and circulation paths.
9. Landscaping around buildings should reflect the contextual landscape around the building, while creating individuality and diversity at the entries (through the use of accent plantings and hardscape elements).
10. The planting of trees near buildings should be considered as a means of reducing radiant heat from the sun allowing the reduction of cooling requirements.
11. Planting should be used to break up stark walls and paving. For example, vines and other plantings should be used to enrich large blank wall areas, especially retaining walls.
12. Use plant materials to control erosion and screen unsightly areas such as transformers, service and maintenance areas and dumpsters.
13. Plantings should incorporate the use of native plant materials which are well-adapted to Puhī's climatic conditions.
14. Regular and appropriate pruning, fertilizing, weeding, and other horticulturally correct actions should be taken to assure continual health and vigor.

15. Xeriscape Principles

- a. Limit the extent of high water demand turf areas to a functional minimum.
- b. Develop planting designs which group plant species in zones of similar water needs.
- c. Develop planting designs which emphasize the use of low water demand species for large spaces.
- d. Develop irrigation systems zoned for water delivery in accordance with plant and microclimatic requirements.
- e. Develop plant palettes which provide for a maximum of aesthetic character and function but require minimal supplemental watering following establishment.
- f. Develop specifications which prevent soil compaction during construction, require soil amendments, additives and the use of mulches during the period of establishment.
- g. Schedule regular inspections and appropriate corrective action for all water delivery systems to limit water waste, line breaks, leaks, and malfunctioning electrically activated water control systems and to assure design water delivery per plant species.

**8.5.2 IRRIGATION**

The site of the proposed campus receives adequate precipitation throughout the year to maintain established plant material. This will normally provide a sufficient supply of water for most of the vegetation on campus. Automatic irrigation systems should be included for areas which will receive high visual exposure or areas that have specific needs such as at major entries, plazas, courtyards, the central quadrangle, and the cultural gardens.

1. Irrigation systems should be designed to accommodate the specific water needs of each group of plants. Use of appropriate heads, valves and controllers will be essential to providing good management potential. Ample versatility in programmability of irrigation controllers will be an important factor in providing the water manager with tools that allow for maximum water efficiency.
2. Heads and nozzles: In areas that are highly visible, use pop-up spray heads in order to minimize damage caused by vandalism. Shrub sprays can be used in areas that are out of the way of heavy foot-traffic.

**8.5.3 SIGNAGE**

A signage master plan should be developed to provide necessary information to visitors and the campus community and project a positive campus image with a unified system of high quality graphics. In general, the signage, through size, color, and materials, should help to identify each

building block element and the hierarchy within each element (such as the spine vs. paths). The types of signs shall include but not be limited to the following:

- Gateway signs,
- Major and secondary entry signs and monuments,
- Campus directional signs,
- Building identification signs,
- Traffic control signs,
- Temporary signs, and
- Identification plaques and signs for botanical gardens.

Signs should be developed to incorporate graphics such as colors, logo, or a combination of both. Site furnishings should also be selected or designed to match or complement the graphics chosen for the signs. This will help establish a theme or pattern throughout the campus.

#### **8.5.4 EXTERIOR LIGHTING AND SITE FURNITURE**

Exterior lighting and site furniture should be incorporated to provide for the necessary functional requirements and also contribute toward the enhancement of campus image. A campus lighting plan should be developed to provide a coordinated system of lighting which is compatible with adjacent structures, walkways, site furniture and open spaces.

##### **8.5.4.1 Exterior Lighting**

1. Exterior lighting shall be provided in a manner that does not detract from the architectural character of buildings. Lighting can serve to both dramatize and highlight the landscape or a building, and create an overall sense of continuity throughout the project. Light sources should be recessed, screened or shielded to minimize glare or excessive light spillage on neighboring sites.
2. A standard street light fixture should be adopted for all campus roadways.
3. A standard on-site lighting fixture should be adopted for the campus.
4. A standard path light should be adopted for all campus paths. This fixture should be selected to easily accommodate the installation of banners.
5. A standard fixture should be employed in all parking lots.
6. Service area lighting shall be contained within the service yard boundaries and enclosure walls. Light spillover outside the service area should be minimized.



#### 8.5.4.2 Site Furniture

Site furnishings should reflect Kaua'i CC's setting, architectural character, and climatic conditions. These should be part of a coordinated system, which reinforces the image and identity of the campus. These elements should provide excellence in design, functional appropriateness, durability, and evoke a sense of quality at the pedestrian scale of experience.

1. The design and choice of furnishings should reinforce a unified and consistent visual vocabulary. New site furnishings should contribute to the identity and image of a space. The design and choice of furnishings should visually relate to the design of adjacent buildings and structures.
2. Locate seating oriented to users for interaction, studying, waiting and resting. These include areas adjacent to paved walkways, entry ways, and plazas, near the tops and bottoms of major stairs and ramps, at bus stops and at other locations deemed appropriate by anticipated need and use.
3. Encourage the incorporation of amenable sitting surfaces integral with building and site design such as ledges on planter areas, sitting steps, retaining wall setbacks, slabs cantilevered from walls, and raised podiums in plazas.
4. Telephone booths should be located relative to potential use, convenience, and installation costs. Highly visible locations are best for better utilization and convenience as well as security from vandalism. Also, all telephone groupings should have at least one lower height telephone for use by shorter individuals or by individuals with disabilities.
5. Provide furnishings which encourage use by individuals with disabilities.
6. Bus shelters should be located where warranted by the degree of use, be adjacent to paved sidewalks and not impede pedestrian traffic. The shelters should provide protection from sun and rain.
7. Provide information kiosks and notice centers only in areas where they are needed and have a high exposure to pedestrian traffic. Kiosks should be designed to fulfill their intended function while blending compatibly with their setting. At major gathering areas, kiosks should provide general student information, a map of the campus, event notices, and other miscellaneous information.
8. Trash receptacles should be attractive and of a consistent design, placed strategically throughout the campus. They should be combined with other site furnishings to create consolidated, multi-purpose facilities where possible.
9. Dumpsters should be located convenient to the facility they serve. All rubbish cans and dumpster areas should be screened on at least three sides by an opaque fence or wall of sufficient height to block views of the containers. Plant material and/or earth berms should

- be used for general screening of the trash collection areas from view of main roads, sidewalks and building entrances.
10. In major plazas and open spaces, moveable tables and chairs should be provided to allow for interaction, eating and studying while providing flexibility in arrangement.
  11. Lighting fixtures along the pedestrian spine and at plazas should be designed to accommodate banners to create identity and pride for the school programs, and a more festive collegiate atmosphere.
  12. Bollards should be used to define edges and spaces and to separate vehicular and pedestrian uses. Light bollards may also be used for this function.
  13. Planter pots should be used as accents along the pedestrian spine and walkway, at gathering areas and at entries to certain buildings.
  14. Drinking fountains should be provided throughout the campus.
  15. Environmental Art (sculptures) should be incorporated to assist in place identity for the open space areas and to make art an integral part of the campus image.

## 8.6 ENTRIES

Entries are important elements of a well-defined campus. Well-designed, these elements can invoke a strong sense of arrival into the campus community.

Having a few well defined entries, as opposed to having a number of ill-defined entries, will increase the sense of importance of each entry and will help the maintain the integrity along the edges of the campus. For the Kaua'i CC campus, three levels of entries are recommended: primary (vehicular) entries, secondary (vehicular) entries and pedestrian entrances (Figure 7.4).

Two main entries or gateways are identified for the campus (Figure 7.4). They include signage features at the existing main entry opposite Puhi Road and the proposed secondary entry. The following guidelines apply to the two gateway intersections identified for the campus.

1. The use of consistent signage should be installed at all of the gateway intersections.
2. The use of rock walls, berming, flowering shrubs, and accent palms such as *loulou*, and flowering trees such as Hong Kong orchid should be incorporated as highlights for the gateways.

### 8.6.1 PRIMARY ENTRANCE (PUHI ROAD)

1. For this primary entry, the sense of an entrance should be carried out to Kaumuali'i Highway.

2. Landscaped forms such as berms, sign wall monuments larger accent trees and palms, identity monuments, and directional signage should be utilized to highlight the entry. Accent plantings and lighting should be used to accentuate the entry.
3. The entry should be dignified, yet open and accessible.
4. The median should also be planted with *loulu* and Hong Kong orchid trees and accent groundcover and special lighting fixtures should be provided. The loop road should be lined on both sides with monkeypod trees to further enhance the entry sequence into the campus.

### 8.6.2 SECONDARY ENTRANCE

1. This entry should also have sign wall monuments, accent plantings and lighting, but on a lesser scale to establish a hierarchical pattern of importance.
2. This entry should also be lined with monkeypod trees.

### 8.6.3 PEDESTRIAN ENTRANCES

1. Provide site furniture to identify each entry which might include orientation devices, an information kiosk, benches, telephones, bicycle parking areas and art sculptures.

## 8.7 EDGES

The edges, or borders of a campus (Figure 3.1), are important in clarifying the boundaries of a campus, as well as serving as a buffer to adjacent properties. Kaua'i CC is unique in that it currently has a wide open field as its public edge along Kaumuali'i Highway. Kaua'i residents are accustomed to looking across the field to the campus buildings.

The other edges of the campus are mostly sugar cane lands and along these boundaries, no particular edge treatment is required. Semi-public uses include Gaylords (a visitor attraction and restaurant) which has a full thicket of *milo* trees which screens this use, and Island School, which has mature *kukui*, *loulu*, and monkeypod trees planted at its edge. Although no particular edge treatments are required at this time, surrounding uses may change, and in this event, the entire campus should have well defined edges.

1. A perimeter planting concept for the Kaua'i CC campus should be to create an edge for the campus in order to reinforce a sense of identity and define the boundaries of the campus.
2. Edges can be strengthened through the use of landscaping and berming. Each of these elements must be interrelated with the other to create the successful definition of a border to the campus.
3. Use of consistent planting material and landscape treatment is recommended for the edges of the campus.

## **8.8 VEHICULAR AND BICYCLE CIRCULATION AND PARKING AREAS**

Roads and bike paths provide a primary means of on-site access as well as a vantage point along which one can enjoy views of the campus. Design guidelines for roadways and bicycle paths include general guidelines for roads, specific guidelines for the hierarchy of roads, and general guidelines for bike paths.

### **8.8.1 GENERAL GUIDELINES FOR CAMPUS ROADWAYS**

1. Design roads to provide clear and direct links between destinations. Vehicular conflicts with bicycles and pedestrians should be kept to a minimum. Where crossing of vehicular and pedestrian paths occur, landscaping should be controlled so as not to interfere with safe lines of sight. In addition, the paving material used for the walkway should be used across the road and/or a "speed hump" should be installed.
2. Develop a visual identity and hierarchy for roadways through the use of streetscape elements to provide an attractive roadway in keeping with its intended function.
3. Setbacks, plantings, earth berming, and other techniques can be used to visually integrate roads with the areas they serve.
4. Road alignments should relate to the natural contours of the land to minimize grading and destruction of the natural environment.
5. Plant trees along roadways with consistent themes to establish separate identities and scale to aid in the comprehension of the vehicular circulation system.
6. Roadways and parking lots should strive for a coherent, meaningful and attractive streetscape. The design of roadways and associated rights-of-way should strive to minimize clutter.
7. Roadway dimensions should relate to "calming" traffic, and not to encourage speeding.

### **8.8.2 ROADWAY HIERARCHY**

To facilitate the design of the various types of roadways on campus, a hierarchy of roadways is proposed for the campus (Figure 7.6). The hierarchical network of roads will serve to articulate the vehicular circulation pattern throughout the campus. This can be accomplished through the use of setbacks, planting, street furniture and signage. Design guidelines for the two roadway types recommended for the campus are presented below.

### 8.8.2.1 Internal Loop Road

Vehicular circulation is proposed to be accommodated by a loop road ringing the campus (Figure 7.6), providing access while minimizing conflicts between vehicles and pedestrians. A nearly complete loop is provided for efficient service access. Accessible parking areas (for individuals with disabilities) and service areas will be located off of the internal road, while most of the general parking will be located off the internal road. Bicycle circulation will also be accommodated by this internal road.

The loop road should have a consistent planting theme of monkeypod trees to establish its significance in the roadway hierarchy.

### 8.8.2.2 Service Drives

Internal drives will have limited access for service, maintenance, and emergency vehicles (Figure 7.6). For some of the existing buildings, service will have to continue on existing paths. These paths will have to be of adequate width to support emergency and fire protection vehicles. Trees along these paths will have to be selected, installed and maintained to insure unimpeded access.

Plant groupings should articulate driveways to buildings and other facilities. Berms can further articulate a separation between the roadway and any adjoining parking lots.

### 8.8.3 BICYCLES (Figure 8.7)

1. Bikeways should be designed as an integral component of the circulation system.
2. Provide for conveniently located and secure bicycle racks throughout the campus. Locations should include, but not be limited to, major activity areas and open spaces, areas at entrances to the pedestrian mall, and areas adjacent to major buildings.
3. Bicycle racks and parking areas should avoid obstruction of the pedestrian flow or access for individuals with disabilities along walkways or at building entrances.
4. Alignment and design of bikeways should maximize visual interest along the routes.
5. In designing bikeways in conjunction with secondary pedestrian walkways, four feet of pavement width should be added to accommodate bicycles.

### 8.8.4 PARKING AREAS (Figure 7.6)

1. Surface lots should be landscaped to mitigate negative visual and micro-climatic effects of large paved areas and parked automobiles.
2. The total parking area shall be landscaped with at least one 25 gallon tree per each 6 stalls and appropriate ground cover.



**LEGEND**



-  BIKEWAYS
-  BIKE STANDS

Figure 8.7  
 Bikeway Plan  
**KAUAI CC LRDP**

AREA SCALE: 1/2 Acre

NORTH

LINEAL SCALE (FEET): 100 50 0 50 100 200

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3. To effectively control the adverse appearance of exposed parking lots, parking areas should be screened around their perimeter with shrubs, hedges, berms, or a combination of these materials. Heights should not exceed 2 feet 6 inches for hedges and shrubs due to safety concerns.
4. Landscape islands should be installed as frequently as is feasible to break up large parking areas. To create a formal character, the islands may be regularly spaced in width.
5. To relieve visual monotony and to provide shade, trees should be planted in the landscape islands and perimeter areas of large parking lots.
6. Provide buffers to minimize noise onto adjacent uses and facilities.
7. Limited special VIP and disabled parking spaces should be integrated with service areas to facilitate convenience and safe access. Facilities should be planned with efficient service and loading areas, sized to accommodate the functions within the building, and screened from surrounding areas.
8. Specific tree types should be selected from the parking lot section of the Plant List (Appendix J) for each of the parking zones to create an identity for the parking lot.

## 8.9 GUIDELINE MANAGEMENT PROCEDURES

The preparation and maintenance of campus design guidelines and standards is a significant effort to assure that the campus environment is developed consistent with the established values and goals of the Long Range Development Plan). It is up to the College to direct the implementation of the guidelines and to utilize them in the day to day processes that affect the campus function and image. To this end the following procedures are recommended:

1. The Long Range Development Plan provides the framework for siting facilities, and any amendments should be consistent with the major concept and themes established in the Long Range Development Plan.
2. The Long Range Development Plan and Planning Design Guidelines should become a basic reference source for all those involved in the project planning and construction processes. This includes both Kaua'i CC personnel, the CCFPO, and consultants hired for specific projects.
3. A Campus Design Review Committee should be established within the college community. The committee would be charged with reviewing all new projects for their compliance with the Long Range Development Plan objectives and design guidelines. These reviews would need to occur throughout the life of each project, beginning with the early phases of planning.